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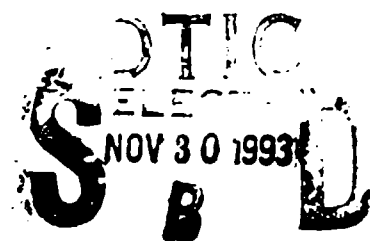
Influence of Uncertainty and Time Stress on Decision Making

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Decision Science Consortium, Inc.

for

**Contracting Officer's Representative
Rex Michel**



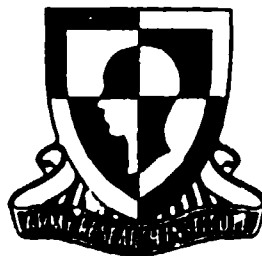
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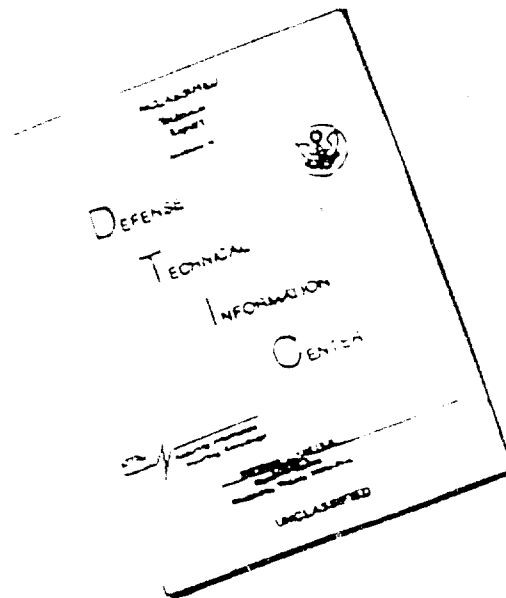
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13. ABSTRACT (Maximum 200 words) This project studies the effects of uncertainty and time stress on the decision making of experienced Army officers playing the role of a division operations officer analyzing courses of action in a tactical scenario. Thirteen lieutenant colonels (LTC) were presented with a defensive scenario (a Fulda Gap scenario) and asked to analyze three courses of action and make a final recommendation. After being given time to familiarize themselves with the scenario, seven of the participants were given 45 minutes for their analyses (time-stress condition), after which participants made their final recommendations. Data were collected on the information participants used to perform their analyses. No-stress participants compared with time-stress ones spent more time on information that was relevant to resolving uncertainty and providing a "big picture" of their mission, used more analysis methods to arrive at a recommendation, and tended to recommend less conservative courses of action. These results suggest that under conditions of uncertainty and time stress, aiding concepts are needed that supplement the breadth of analysis and deliver information more efficiently so that decision makers will be able to use all relevant information.				
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THE INFLUENCE OF UNCERTAINTY AND TIME STRESS ON DECISION MAKING

CONTENTS

	Page
INTRODUCTION	1
METHODOLOGY	3
General Overview	3
Participants	3
Materials	3
Procedure	15
RESULTS	17
Sources of Data Used in the Analyses	17
Course of Action Recommendations	17
Sources of Information Used	17
Content Analysis of Participant's Decision-Making Processes	20
DISCUSSION	23
A General Theoretical Framework	24
Concepts for Aiding Decisions Under Conditions of Uncertainty and Time Stress	26
Estimates of Technical Feasibility	27
REFERENCES	29
APPENDIX A. EXPERIMENTAL MATERIALS	A-1

LIST OF TABLES

Table 1. Sources of Information Used During Analysis	18
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CONTENTS (Continued)

Page

LIST OF FIGURES

Figure 1.	General situation	4
2.	Course of action one	10
3.	Course of action two	11
4.	Course of action three	12

THE INFLUENCE OF UNCERTAINTY AND TIME STRESS ON DECISION MAKING

INTRODUCTION

A critical factor in the success of battlefield operations is the decision-making process. An important component of the process is the decision making performed by the Assistant Chief of Staff for Operations (G-3), namely analyzing courses of action in tactical situations and making recommendations to the Commanding General (CG). Unfortunately, the conditions under which Army officers are taught the doctrinal approach to decision making are not always the same as those experienced on the actual battlefield. A number of conditions are expected to be present, such as fatigue, stress, and incomplete and unreliable information, which will degrade the decision-making process and could result in poorer decisions being made.

The purpose of the present study is to investigate two factors that could degrade the decision-making process: uncertainty about the situation, and a limited amount of time to make the decision (time stress). This and follow-on research will be used to develop a theoretical framework for understanding how uncertainty and time stress influence the decision-making process that can then be used to develop decision-aiding concepts for improving decision making under uncertainty and time stress.

Much research has already been generated on decision making under uncertainty (see Kahneman, Slovic & Tversky, 1982; Nisbett & Ross, 1981, for reviews). Unfortunately, the effects of time stress on decision making have received little attention, and even less attention has been paid to how the two factors interact.

We hypothesize that uncertainty and time stress have conflicting motivational influences on decision makers. The presence of uncertainty motivates the decision maker to do a more thorough sifting through information and a more careful analysis of the problem in an attempt to resolve uncertainties. Time stress, however, conflicts with this goal by forcing the decision maker to act before he has had the opportunity to conduct a thorough analysis. This hypothesis is consistent with Janis and Mann's (1977) model of decision making under time stress, where they argue that decision makers will normally be motivated to conduct a thorough sifting through information and options unless given insufficient time to do so.

Previous research on decision making has shown that when decision makers are confronted with uncertainty, they often rely on intuitive heuristics to arrive at a judgment or decision (Kahneman, Slovic & Tversky, 1982; Nisbett & Ross, 1981; Tversky & Kahneman, 1983). More relevant to the present study, Leddo & Govedich (1986) found that decision planners (which is a function similar to that performed by the G-3) tend to reason intuitively in making decisions, tending to seek plans that have high internal causal consistency (even if they are not totally externally valid).

Given that decision makers in general and planners in particular tend to employ intuitive reasoning methods when confronted with uncertainty, it is hypothesized that time stress would increase this tendency. It is interesting to explore this hypothesis in the context of the G-3 decision-making process. Army officers are given extensive training in the Army decision-making process, which is based largely on highly proceduralized, analytical techniques. Hence, G-3's would typically be expected to show both analytical and intuitive reasoning in their decision making.

However, under conditions of time stress, we would expect that a time limit might force a G-3 to abandon some of his more formal analytical methods in favor of more global, intuitive methods. Such intuitive methods may include a general "wargaming" or scenario-construction of a given course of action (similar to results obtained by Leddo & Govedich, 1986). Hence, we hypothesize that under time stress, subjects in the role of the G-3 will use fewer, more intuitive methods for analyzing courses of action.

As stated above, time stress also would interfere with a decision maker's ability to sift through all available information and conduct a thorough analysis. Thus, under time stress, we would expect that decision makers would not be able to resolve uncertainties as well as they might otherwise, if given unlimited time. Hence, under time stress, we hypothesize that subjects in the role of G-3 would be more conservative and risk averse in their course of action recommendations, recommending courses of action that commit fewer forces and hedge against likely enemy courses of action.

The present study investigates the effects of uncertainty and time stress on the G-3 decision-making process. Of particular interest are the two hypotheses presented above and the implications of obtained results for aiding decision making under uncertainty and time stress.

METHODOLOGY

General Overview

The experiment was conducted using a combat scenario developed by AKI for another project (Fallesen, Michel & Carter, 1989) and modified by DSC for use in this study. The scenario describes a U.S. division in contact with Soviet forces in the central region of Germany on the third day of a general war. Each participant was told that he was to act in the role of the G-3 (operations officer) of the 52nd Mechanized Infantry Division. The experimental session consisted of two parts: familiarization with the scenario and a formal analysis of three possible courses of action. During the scenario familiarization the participant was briefed on the current situation, the Corps fragmentary order directing the current mission, the division commander's guidance, and preliminary staff estimates analyzing the three courses of action from the personnel, intelligence and logistics standpoints. During the analysis portion, the participant was instructed to analyze the courses of action as part of the G-3 staff estimate (i.e., from the operations standpoint), with the final product being a summary briefing for the division commander containing his recommendations.

Participants

Participants were 13 Lieutenant Colonels (LTC) who were instructors in the Combined Arms and Services Staff School, Ft. Leavenworth. Six LTC were assigned to the no time stress condition and seven LTCs were assigned to the time stress condition. For practical reasons, assignment to condition was not done randomly. Rather, participants run during the morning were assigned to the time stress condition, while participants run in the afternoon were assigned to the no time stress condition, with the exception of the thirteenth participant who was assigned to the time stress condition even though he was run in the afternoon.

Materials

The scenario used was a variant of the "Fulda Gap Scenario," often used for training Army officers. The scenario depicted the 52nd Mechanized Infantry Division in a defensive posture in central West Germany against superior Soviet forces. A general description of the scenario and materials supplied to participants follows, while a complete set of materials used is presented in the Appendix. Figure 1 depicts the general situation described in this section.

Mission and situation

General Situation. The 52nd Mechanized Infantry Division (MID) was part of the US 10th Corps, along with the 23rd Armored Division (AD) and the 201st Armored Cavalry Regiment (ACK). The 10th Corps was defending a frontage of about 65 kilometers. Initially, the 52nd MID was on the north flank, defending

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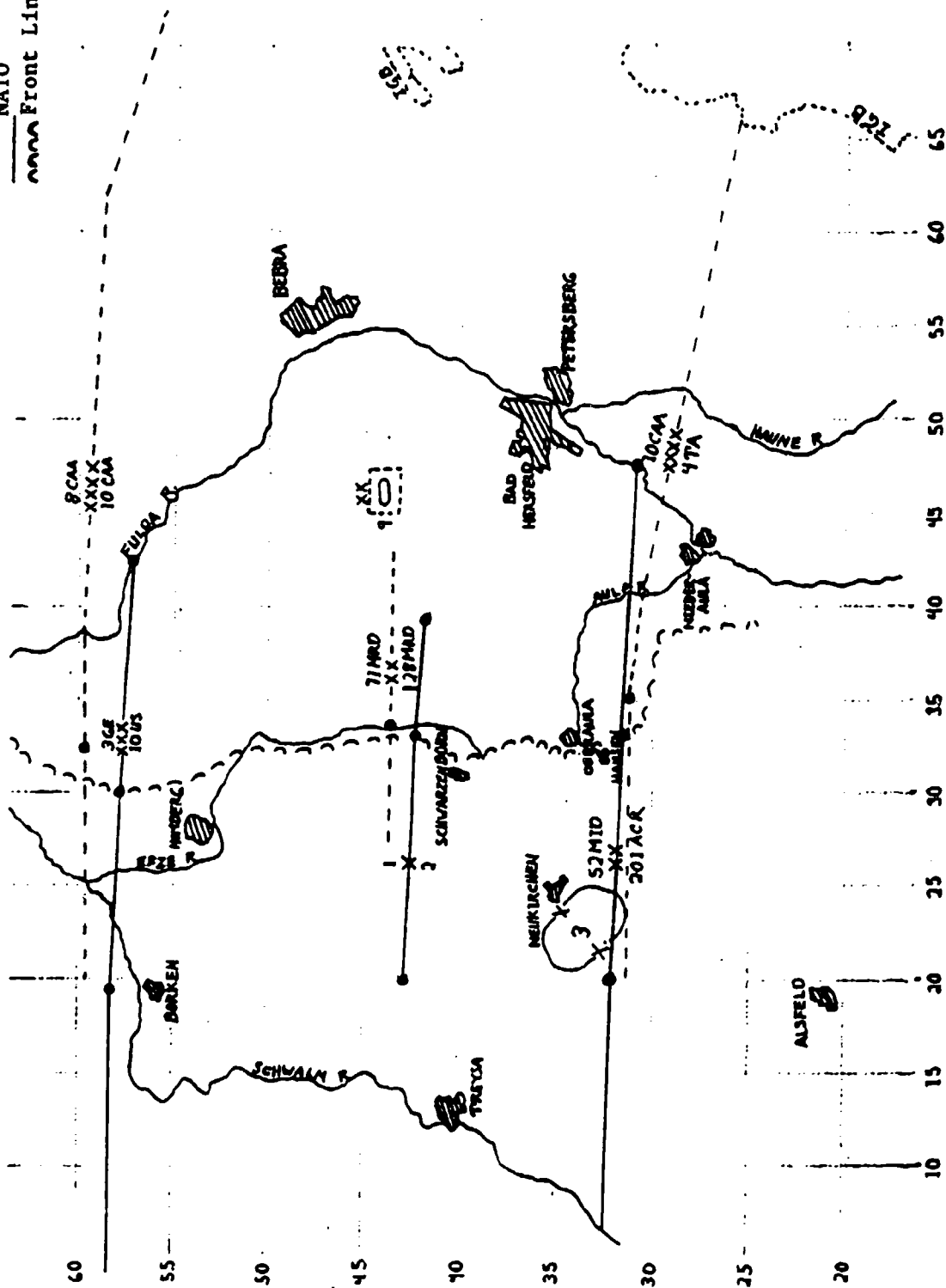


Figure 1. General situation.

a 35 kilometer front, while 23rd AD had about a 30 kilometer front on the south flank. The 52 MID formed its own covering force to operate between the main battle area (MBA) and the Inter German Boundary (IGB), while the 201st ACR acted as the covering force in front of the 23rd AD. On the north flank of the 52nd MID was the 28th Panzer Division, assigned to the southern flank of the German 3rd Corps.

The original corps mission was to defend its assigned sector, preventing significant enemy penetrations into West Germany, to defeat the 10th Combined Arms Army (CAA) and the 4th Tank Army (TA), and to provide a base for the allied counterattack. the 52nd MID mission was to defend in sector and to destroy the first echelon divisions of the 10th CAA.

Due to successful attacks on the part of the enemy, the corps commander had ordered a withdrawal to a new defensive line and had placed the 201st ACR on line in the corps center sector. Currently, except for close range fighting in the south, things had settled down all along the 52nd MID front, with the enemy Motorized Rifle Divisions (MRDs) apparently fairly well spent. During the intense night fighting, the tank division of the 10th CAA moved into assembly areas only 10-15kms from the frontlines. Another enemy tank army, the 7th TA, had been moving up the autobahn by night marches and had apparently stopped for the day with its lead elements only about 60 kilometers from the 52nd MID front lines.

The 28th German Panzer Division was holding well against moderate to heavy pressure in the north by elements of the 8th CAA. On the southern flank of the 52nd, the 4th TA showed no signs of pressing the attack against the 201st ACR. Further south, the 23rd AD was on good defensive terrain and appeared to be in no immediate danger. Thus, the corps commander had no immediate plans for another general withdrawal.

Corps Fragmentary Order. Each participant was provided with the corps commander's "frag" order which gave new instructions to the 52nd MID. The frag order described the enemy forces as prepared to continue the offensive with second echelon divisions and armies. Indications were that the enemy was attempting to drive on WETZLAR/FRANKFURT in the south while mounting a major attack to cut the LASSER-FRANKFURT corridor in the north.

The 10th Corps was to continue to defend in its assigned sector, prevent enemy penetration of the corps main battle positions, defeat the 10th CAA and 4th TA and provide a base for CENTAG counterattack. The 52nd MID was to defend in the north to prevent a roll-up of the corps' north flank while the 23rd AD blocked the main enemy attack on FRANKFURT in the south.

The frag order provided the participants with an indication of the corps commander's strategy for continuing the battle. The 52nd MID was clearly to play a supportive role and, although friendly offensive actions were not precluded, insure the defense of the corps from attack from the north. The commander's intent "two echelons up" (theater army) was not provided, although it could be inferred that it was to defend West Germany forward of the Rhine river with conventional weapons and expel the Warsaw Pact invaders.

Division Commander's Guidance. The division commander's guidance to the staff was intended to provide typical information that a G-3 would have available concerning the formal and implied missions of the unit, broadly defined potential courses of action and the commander's special concerns. The commander restated the formal mission of the division--to defend in sector, to destroy the first echelon regiments of the enemy forces and to prevent a breakthrough in the sector which would permit the enemy to roll up the flanks of the adjacent units as well as to seize the communications center of TREYSA. He envisioned three possible enemy avenues of approach affecting the division area: the BAD HERSFELD-ALSFELD corridor through the 201st ACR which would open up the division's south flank, the BAD HERSFELD-NEUKIRCHEN-TREYSA avenue in the south which he described as "the most likely and most direct approach in our area for enemy entry into the KASSEL-FRANKFURT corridor," and along the north flank through OBERBEISHEIM-HOMBERG-BORKEN which could provide the enemy direct access to the division rear area from the northeast and was potentially the most "dangerous" enemy course of action.

He outlined three broad courses of action for the G-3 to analyze. The first was weighted to defend against an enemy main attack along a northern avenue of approach, while the second was weighted to defend against an enemy main attack along a southern avenue of approach. Both of these options positioned most friendly forces well forward and held out a small reserve. The third course of action created a thin balanced defense along the front in order to withhold a strong reserve.

Of special concern to the commander was the enemy's second echelon tank division (9TD) and second echelon tank army (7TA); protecting the division's rear area; and the enemy's potential use of chemical and nuclear weapons. He specifically instructed the staff to analyze the courses of action in light of these special concerns.

The commander's guidance provided the participants with their "boss's" unique perspective on the situation and possible courses of action. The commander clearly saw a distinction between a "most likely" enemy plan of attack in the south and a "most dangerous" enemy attack in the north. His rationale seemed to be based on an assumption that enemy forces were positioned for a southern attack, but that the inherent weakness of a corps boundary would increase vulnerability in the north. His three broad courses of action seemed designed to address each of these two possibilities plus a "hedge" against either. The possibility of an enemy attack through the 201st ACR was acknowledged, but not viewed as critical to the accomplishment of the division's mission.

Terrain and weather

The Intelligence Officer's (G-2) preliminary staff estimate provided an analysis of the area of operations. The weather was expected to be favorable for offensive operations for the next 24-36 hours, after which movement would be somewhat restricted. Although not intended to be a major consideration in the decision on which course of action to choose, there was some degree of

uncertainty in the predicted weather conditions--particularly in the level of air operations that would be possible, mobility of vehicles and the wind conditions for use of smoke and chemicals.

The terrain analysis consisted of both a written discussion and a terrain analysis map overlay. Generally, the terrain along the division's front lines favored the defense, with parallel rivers and highways providing good obstacles to armored movement. High ground and wooded areas generally gave way to wide, open fields 3-5 kilometers behind the front lines.

The G-2 concluded that the terrain favored an enemy attack in the north around HOMBERG and in the south through OBERAULA or through SCHWARZENBORN. The central sector was protected by the steep banks of the ERZE river. He noted that the enemy might also attempt to flank 52nd MID along the high speed avenue in the south from ALSFELD into TREYSA.

The terrain indicated that the defense in the north around HOMBERG would be the most difficult as withdrawal west of HOMBERG would place friendly troops in exposed positions. In contrast, the defense in the south between SCHWAKZENBORN and HAUSEN would be easier because good to fair delaying terrain existed for about 8 kilometers to the rear of current positions.

Enemy forces

The G-2 provided a description of the enemy forces arrayed against the 52nd MID. Three enemy divisions were identified as composing the 10th CAA: the 71st MRD committed in the north, the 128th MRD committed in the south, and the 9th TD positioned in assembly areas some 12 kilometers to the rear. An additional tank army, identified as the 7th TA, was moving up in the rear of the 10th CAA.

The two MRDs in contact had been pressing the fight with their motorized rifle regiments (MRR) for the past 24 hours, meaning that the 52nd MID was currently facing six MRRs (each with an organic tank battalion). The two tank regiments organic to the MRDs were the division's second echelon force. The 71st MRD in the north had suffered heavy casualties and consumed most of its ammo and fuel. The G-2 estimated that the two MRRs in front of HOMBERG were incapable of further major offensive action. The divisional tank regiment had taken heavy casualties during the offensive the prior two days and was estimated to be at no more than 70% combat strength. The 128th MRD in the south was in only slightly better shape, with one MRR probably incapable of further offensive operations. Several indicators pointed to low supply in the two divisions in contact. Continued presence of the 7th TA in the 10th CAA rear and recent destruction of a main rail line should have caused resupply problems for them.

All or most of the 9th TD crossed the FULDA river unopposed during the night at multiple crossing points. The 9th TD saw only limited action the first day and should have been at least partially resupplied. It was probably at 80-85% combat strength and capable of 24 hours of offensive operations without further resupply.

The army moving up in the rear was the 7th TA with what appeared to be three tank divisions and one MRD. The 7th TA had been traveling along parallel routes at night, halting during the day for the past three days and appeared now to be halted with forward elements about 60 kilometers from the front. Attempts to interdict the column had been generally unsuccessful because of very effective enemy air defense.

In addition, the enemy maneuver forces were supported by over 35 artillery and missile battalions and the 4th Air Army generating a maximum of 40 fighter-bomber sorties in the 52 MID area per 12-hour period.

The G-2 assessed the capabilities of the enemy forces as being able to make limited attacks across the 52nd MID front at any time with two tank regiments and elements of six motorized rifle regiments supported by normal divisional and regimental artillery with the main effort either in the north or the south, and making a reinforced attack at any time with three tank regiments and one MRR of the 9th TD and other reinforcing units.

The enemy's present dispositions did not favor adoption of an attack in the north. The avenues of approach were narrow and would cause fragmentation of the enemy force. The lead regiments of the 71st MRD were incapable of further combat, and the terrain would channelize the high-speed armor avenues of approach for the 9th TD. However, this avenue posed high risk to friendly forces because if the enemy attacked here, they might penetrate along the corps boundary, turn the division and corps flanks, cut north-south lines of communication, and open the way for exploitation by the 7th TA.

The more likely enemy course of action was an attack in the south. Present dispositions of forces indicated adoption of this capability. The avenue of approach was adequate enough to support at least three regiments abreast although the terrain was the most defensible in the 52nd MID sector. It was likely that a main attack would be conducted in this area through which the enemy would move quickly to the communications center at TREYSA. The 9th TD was positioned to quickly pass through the 128th MRD to lead the attack and could be readily reinforced by elements of the 7th TA.

An attack in the extreme south with the main effort aimed at the 201st ACR would be the longest approach into 52nd MID positions and would expose a flank of the enemy force to counterattack from the west. Therefore, it would not be likely. This approach, however, would be the most direct route to FRANKFURT and would attempt to penetrate the most lightly defended position of the 10th US Corps front.

The G-2 concluded that an attack with the main effort along the southern avenue by elements of the 9th TD supported by elements of the 128th MRD was most likely.

Friendly courses of action

The subjects were provided with three friendly courses of action (COA) developed by the G-3 Plans Officer. These COA expanded on the three broad concepts provided by the division commander in his guidance.

Course of Action 1 (See Figure 2). 52nd MID defends in sector to defeat first echelon of the 10th CAA along the current line of contact. No covering force will be used since units are already in contact. Division will defend with three brigades on line with each of the northern two brigades defending a narrow sector in order to weight the defense against the most dangerous avenue of approach. The 1st and 3rd brigades will defend in depth, and the cavalry squadron along with a mechanized infantry battalion will form the reserve located well to the rear. The 2nd BDE will defend along a broad front and will be prepared to assist the 3rd BDE should penetration occur. The 1st BDE will have four battalions and will be armor heavy to take advantage of the open terrain west of Homberg. The 3rd BDE will have three battalions and will be mech infantry heavy. The 2nd BDE will have three battalions and will be mech infantry heavy in anticipation of a secondary attack in this zone. Initial priority of fires to 1st and then to 3rd BDE and 2nd BDE. Be prepared to counterattack on order. The main effort is initially focused in the north.

Course of Action 2 (See Figure 3). 52nd MID defends in sector to defeat first echelon of the 10th CAA along the current line of contact. No covering force will be used since units are already in contact. Division will defend with three brigades on line with the 2nd brigade in the south defending the narrowest sector in order to weight the defense against the most likely avenue of approach. The cavalry squadron and one mech infantry battalion will form the reserve located well to the rear. The northern brigade will defend along a broader front and will be prepared to assist 3rd BDE should penetration occur. The 2nd BDE will have four battalions and will be balanced. The 3rd BDE will have three battalions and will be armor heavy to defend against the high speed avenues of approach through SCHWARZENBORN. The 1st BDE will have three battalions and will be mech infantry heavy to take advantage of the more rugged terrain in the MBA. Initial priority of fires to 2nd BDE and then to 3rd BDE and then 1st BDE. Be prepared to counterattack on order. The main effort is initially focused in the south.

Course of Action 3 (See Figure 4). 52nd MID defends in sector to defeat 1st echelon of the 10th CAA along the current line of contact. No covering force will be used since the units are already in contact. Division will defend with the 1st BDE in the north, the 2nd BDE in the south, and the 3rd BDE providing defense in depth across the division area. As soon as the location of the main attack is determined, the 3rd BDE will move forward to strengthen the defense along that avenue of approach. Due to terrain considerations and uncertainty about the location of the enemy's main attack, both the 1st BDE (four battalions) and the 2nd BDE (four battalions) will be balanced between armor and mech infantry. The 3rd BDE, acting as the Division reserve, will have four battalions and will be balanced. The MBA will be fought well forward with two BDE on line to defeat the leading elements of the attacking force. Priority of effort goes to the 2nd BDE in the south to include priority of artillery fires, close air support, and reserves. Forward brigades should be prepared to withdraw to Phase Line ALPHA on order. The main effort is initially balanced across the division front.

COA3 committed the least amount of forces on line, held the most in reserve and assumed equal likelihood that the enemy's main effort would be in the north or south. COA3 was the most conservative in that it could assume no

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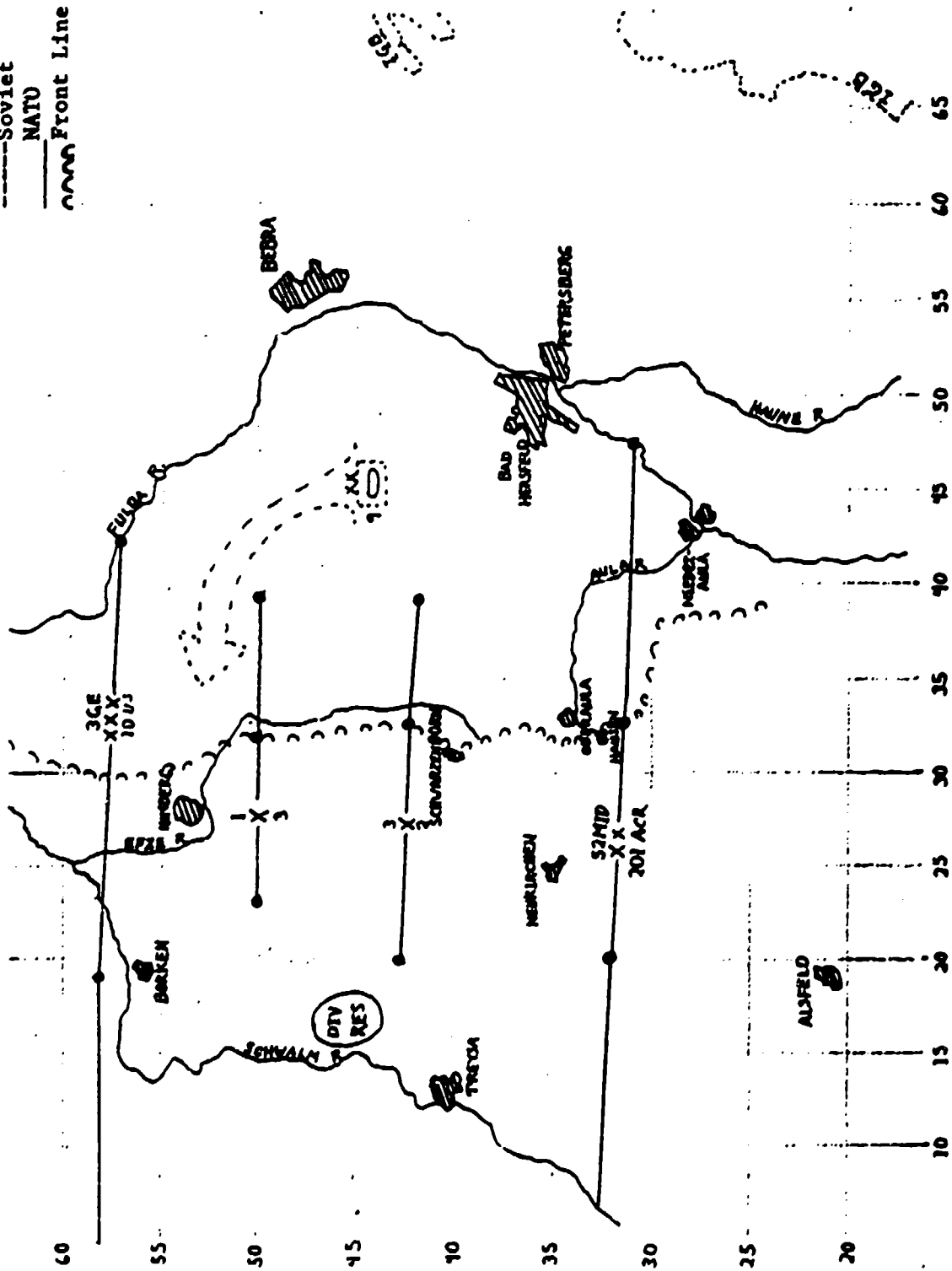
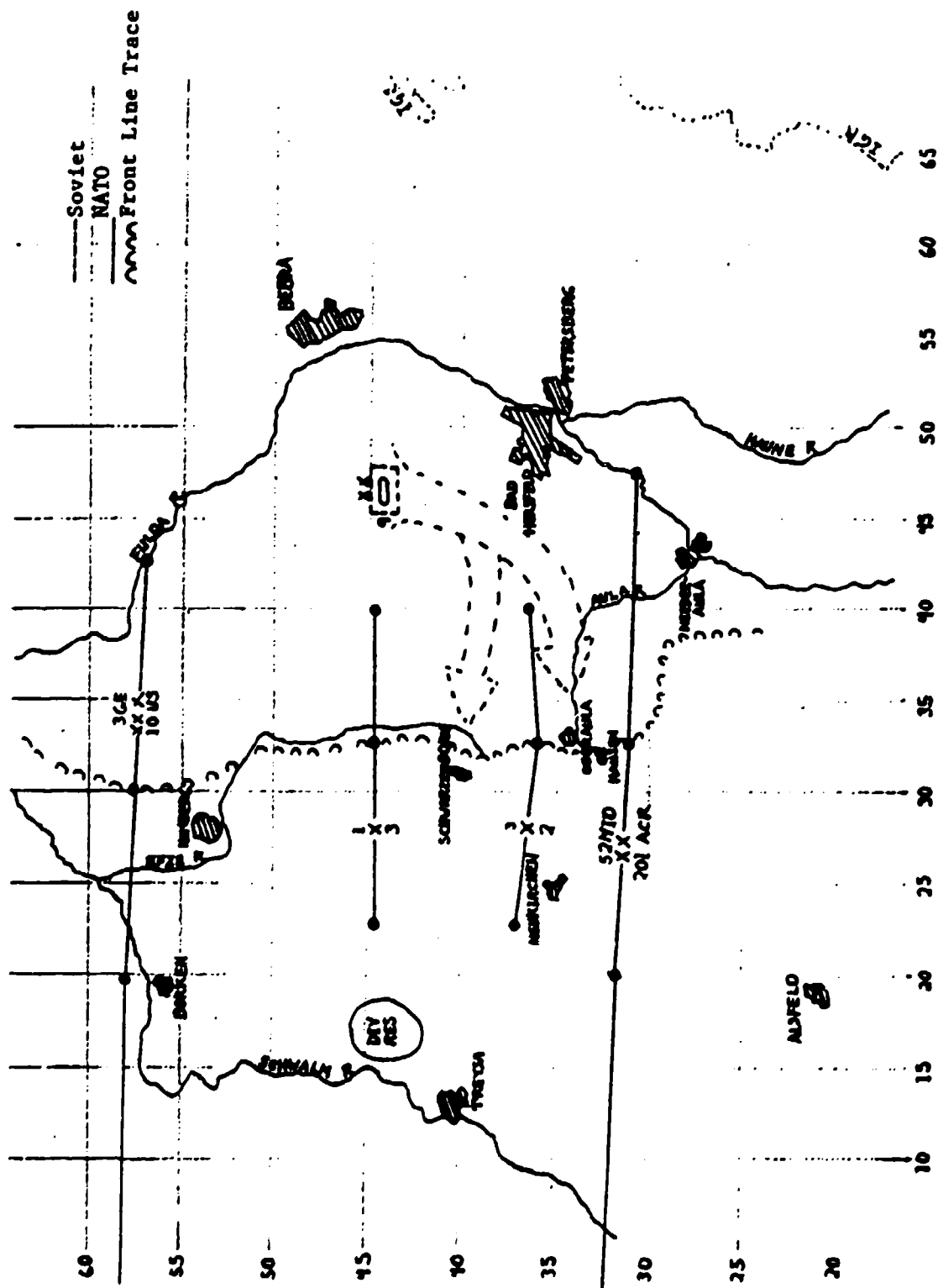


Figure 2. Course of action one.



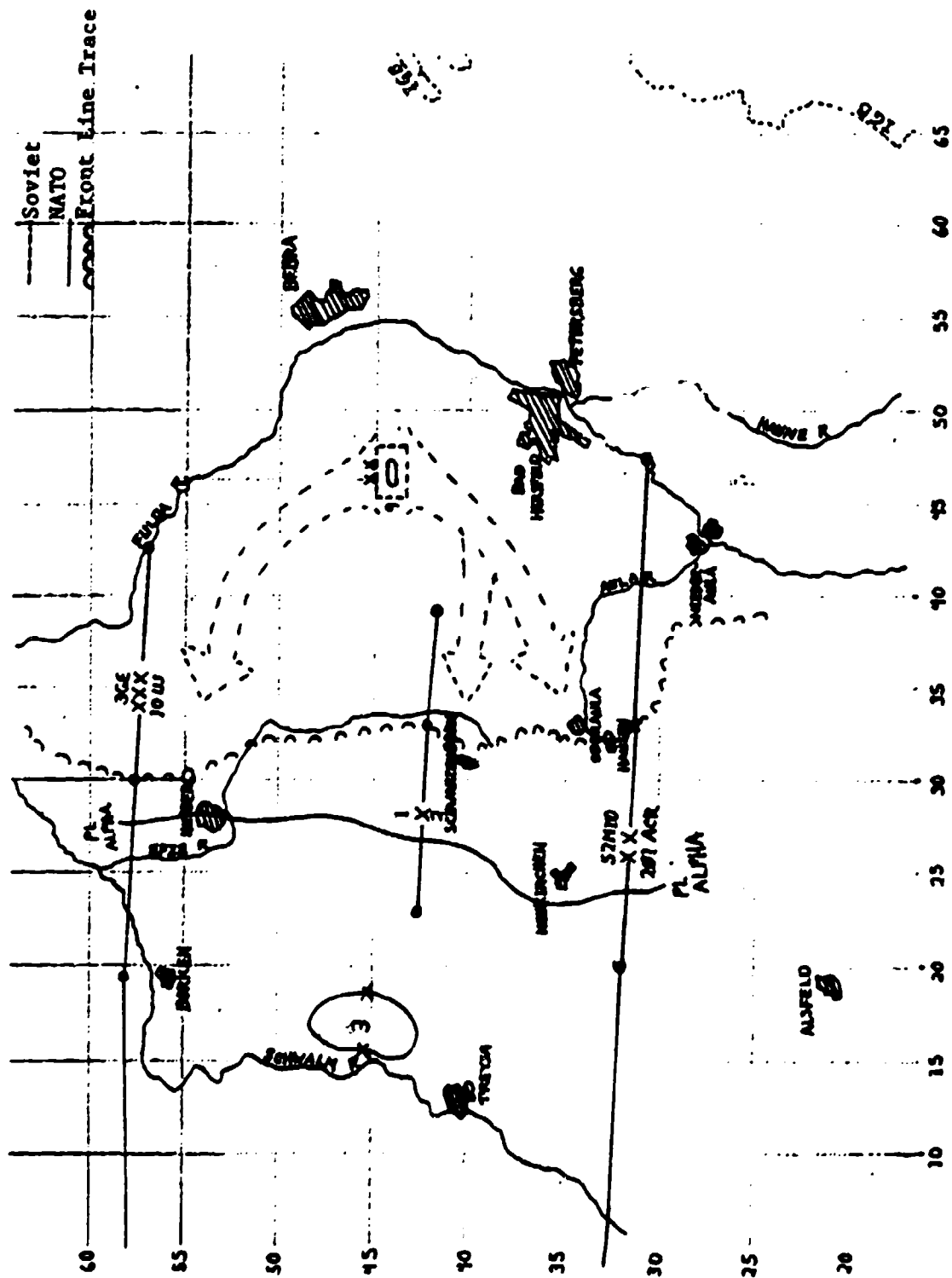


Figure 4. Course of action three.

resolution of uncertainty. COA1 and COA2 assumed that the enemy's main attack would be on a specific avenue, accepting risk on the other avenue. Thus, they were less conservative than COA3.

#### Other staff estimates

The subjects were provided with staff estimates by the G-1 (Personnel) and the G-4 (Logistics) officers.

The G-1 reported the division at approximately 88 percent strength. Major Military Occupation Specialty (MOS) shortages existed for infantry and tank platoon leaders, infantry Non-Commissioned Officers (NCOs), and tank crewmen. Projections for individual replacements were estimated at 10 officers and 120 enlisted personnel per day.

The G-1 performed a preliminary analysis of the three COA outlined by the G-3 Plans Officer. He estimated division losses for the next three days for each COA. All COA would reduce friendly strength to about 75 percent, with COA2 (2500 losses) being a little better than COA3 (2600 losses) and COA1 (2700 losses) being the worst. The mechanized infantry battalion task forces were expected to suffer the largest proportion of division losses under all COA, and in another two days of combat would become marginally combat effective. Both infantry and armor replacements were urgently required.

COA1 and COA2 would have the greatest impact on the strength of divisional combat units since the division would be employing most of the battalion task forces in decisive combat on a narrow front. COA1 also posed the greatest threat to personnel operations and to the division LOC (i.e., lines of communication--major road networks). Losses under all COA would reduce the division strength to the point that continuation of effective combat would be difficult. In all COA, the 52d MID would require significant numbers of trained replacements, particularly infantry replacements, to sustain combat operations. COA3 would require more rearward placement of division clearing stations thus extending medical evacuation capabilities. Less impact on evacuation and hospitalization was associated with COA1 and COA2.

After his analysis, the G-1 recommended that COA3 could best be supported from an overall personnel standpoint. A careful review of his analysis, however, would show weak support for this conclusion. In any case, all COA could be supported by the G-1 without much difference.

The G-4 reported that the current logistic situation was good, and re-supply distances were essentially normal. There were no critical shortages in Class I, II, and III supplies (i.e., food, individual equipment/clothing, and fuel respectively). Basic loads of ammunition for all units had been replenished. Transportation assets were adequate to support combat service support (CSS) operations.

Sufficient area for logistical operations was available to support any of the COA. The rear area contained sufficient small towns and wooded areas to accommodate CSS activities. Spare parts (Class IX) were available to support all COA. Corps had not yet established any controlled supply rates for ammunition (Class V); therefore, all required supply rates could be accommodated.

Main support routes were available, were designated, and were capable of supporting all COA. Projected supply requirements would exceed the capability of available vehicles. Positioning of supply points farther rearward would aggravate the transportation problem; therefore, forward positioning of CSS operations was called for. Also shorter supply lines would decrease the rear area security problem.

The G-4 concluded that all COA could be supported logistically. COA1 and COA2 could be equally supported logistically with COA3 being far less desirable.

#### Map overlays

The subjects were provided with a set of acetate map overlays which depicted the corps situation, division boundaries, friendly and enemy dispositions, a terrain analysis, and the three COA.

#### Reference materials

The subjects were provided a set of Army manuals to use as general references during the analysis of the COA.

The manuals provided were:

|             |                                                            |
|-------------|------------------------------------------------------------|
| FM 100-5    | Operations                                                 |
| FM 100-10   | Combat Service Support                                     |
| FM 101-5    | Staff Organization and Operations                          |
| FM 101-5-1  | Operational Terms and Graphics                             |
| FM 101-10-1 | Staff Officer's Field Manual                               |
| FM 100-2-1  | The Soviet Army: Operations and Tactics                    |
| FM 100-2-2  | The Soviet Army: Specialized Warfare and Rear Area Support |
| FM 100-2-3  | The Soviet Army: Troops, Organization and Equipment        |
| FM 71-100   | Armored and Mechanized Division Operations                 |
| FM 71-2     | The Tank and Mechanized Battalion Task Force               |
| FM 71-3     | Armored and Mechanized Brigade Operations                  |
| FM 17-95    | Cavalry                                                    |
| FM 5-100    | Engineer Combat Operations                                 |
| FM 6-20     | Fire Support in Combined Arms Operations                   |
| FM 41-1     | Army Air Defense Artillery Employment                      |
| FM 3-100    | NBC Operations                                             |
| FM 19-1     | Military Police Support for the AirLand Battle             |
| FM 11-50    | Combat Communications Within the Division                  |
| FM 30-5     | Combat Intelligence                                        |
| ST 100-9    | The Command Estimate (USCGSC Student Text)                 |
| RB 101-999  | Staff Officers' Handbook (USCGSC Student Reference Book)   |

## Procedure

The experimental session was divided into two parts. During the first part, each participant was allowed a period of time to become familiar with the situation and the mission. During this period, he was provided with a G-3 Plans Officer briefing on the general situation (delivered by one of the experimenters), two corps situation map overlays (1:250,000 scale), the corps frag order, the division commander's guidance. The participant was also provided three map overlays with division boundaries and friendly and enemy dispositions, a G-2 briefing summary on the preliminary intelligence estimate to include a terrain analysis map overlay, a G-3 Plans Officer briefing on three developed COA plus three map overlays with the COA portrayed, a G-1 briefing summary, and a G-4 briefing summary. With the exception of the overlays, all of this material is contained in the appendix.

No time limit was placed on participants during this part. The necessity for this familiarization was, in part at least, an artifact of the experimental situation. In an actual situation, the G-3 would have been part of the situation as it developed over the past two days and would have built up this knowledge base over that time period. Thus, it was felt that participants should be allowed to familiarize themselves using their own pace and procedures to help reduce the effects of this experimental artifact. There was no significant difference between the stress and non-stress groups in the amount of time taken for familiarization.

After completing their familiarization with the scenario, one of the experimenters delivered a briefing from the "Division Chief of Staff" instructing the participant to analyze the COA and select one to recommend to the Division Commander. Subjects were told that they were free to modify the COA or come up with an entirely different one if they saw fit.

It was at this point that the time stress manipulation was imposed. Participants in the "time stress" condition were instructed to be prepared to brief the commander in 45 minutes whereas "no time stress" participants were instructed to brief the commander whenever they had completed their analysis. During this analysis portion of the experiment, participants were given a more detailed version of the estimates they had received.

Upon completion of their analysis, participants then briefed the experimenters on their recommended COA and the reasoning behind their recommendations. Following the participants' recommendations, the experimenters asked a series of questions designed to get at some of the decision-making processes the participants used. Throughout both parts of the experiment, participants were encouraged to verbalize their decision-making processes. This verbalization was helped by periodic breaks in the session where participants were asked to review what information they had been looking at and what actions they had been thinking about. These breaks were either initiated by the participants or by the principal experimenter when he judged that participants were between looking at sources of information (e.g., individual staff estimates) so as not to interrupt the participants while they were working. Participants in the

time stress condition were instructed during the second half of the experiment that, when they stopped working to discuss their decision making, the clock would stop as well so as not to detract from the 45 minutes of analysis time.

Throughout the session two types of data were collected each using two methods. The data of interest were the amount of time spent looking at different sources of information and the comments the participants made regarding their decision making. These data were recorded by the principal experimenters as the experimental session progressed and on videotape which was later analyzed for additional data.

Finally, throughout the experimental sessions, the experimenters were available to answer questions that participants had about the scenario.

## RESULTS

### Sources of Data Used in the Analyses

The notes taken by the experimenter during the experimental sessions, the notes participants made while they were working, including text they underlined in the information provided them, and the videotapes of the sessions served as the sources of data in the analyses presented below. These videotapes were content analyzed by the experimenter with the help of a decision science analyst who had military experience and understood the G-3 decision-making process. The analysis of the videotapes served to supplement the notes taken during the sessions. It was necessary for the experimenter to participate in this analysis, however, safeguards for objectivity were maintained as most of the measures were objective and the analyst was not informed as to group membership.

In conducting these analyses, three categories of data were generated. The first category was the participants' recommended courses of action (COAs). The second category included which sources of information participants used during the formal analysis part of the experiment, and how much time they spent on each information source. The third category dealt with what specific analysis methods participants used to arrive at their recommended COA.

### Course of Action Recommendations

All participants recommended either COA2 (which weighted the defense in the south and had three BDEs on line with a small reserve) or COA3 (which was balanced across the FLOT and had two BDEs on line with one BDE in reserve). No participant recommended COA1 (which weighted the defense in the north and had three BDEs on line with a small reserve) because they believed the G-2's estimate that the main attack would come in the south.

The decision to recommend COA2 or COA3 was influenced by whether participants were in the time-stress condition or the no-stress condition. Of the six participants in the no-stress condition, three recommended COA2 and three recommended COA3. Of the seven participants in the time-stress condition, all but one recommended COA3, which was the most conservative, least risky COA.

A chi-square analysis was performed on these recommendations to test for statistical significance. Since the hypothesis that time stress would lead to less risky recommendations was made a priori, a one-tailed test was performed. In spite of the small sample size, this test yielded a chi-square value of 1.92 which approached statistical significance,  $p < .10$ .

### Sources of Information Used

The videotapes and the experimenter's notes were analyzed to see what sources of information participants used during the analysis part of the experiment (e.g. corps frag order, division commander's guidance, staff estimates, maps, overlays, manuals, etc.) and how much time was spent looking at



each source of information. Fortunately, the videotape kept a running counter of elapsed time during the experimental sessions, thus making it easy to get such time measurements. The non-stress group used approximately twice the average time for analysis compared with the stress group ( $X = 85.09$  and  $43.74$  respectively). This difference was highly significant,  $F(1, 11) = 11.56$ ,  $p = .006$ .

For the purposes of the information use analysis, three pairs of information sources were combined and counted as single measures. The corps frag order and the division commander's guidance were combined to form a single measure of whether and how much time participants spent gathering information relevant to their mission and the intent of their superior officers. The G-1 and G-4 staff estimates were combined to form a measure of whether and how much time participants spent gathering information relevant to staff supportability of the given COA. This was done in large part because participants themselves stated that the reason they checked the G-1 and G-4 estimates was primarily to see if the COA could be supported by the staff. The three COA were also combined to provide a general measure of time spent looking at COA.

The mean time spent per information source broken down by condition is presented in Table 1. It should be noted that the terrain analysis overlay was not treated as a separate source of information in the analysis. This was done for the following reasons. First, every participant spent considerable time looking at the terrain analysis overlay in the introduction phase of the study. When the analysis phase arose, the terrain analysis overlay was typically a permanent "fixture" on the division map and it was difficult to separate time spent looking at terrain features, per se, apart from looking at them in relation to specific COA. In addition, all participants considered terrain heavily so that this source of information did not distinguish between time-stress and no-stress participants.

Table 1  
Sources of Information Used During Analysis

|                       | Time Spent on Each Source (in Minutes) |                    |                 |                 |                     |                              |                       |         |
|-----------------------|----------------------------------------|--------------------|-----------------|-----------------|---------------------|------------------------------|-----------------------|---------|
|                       | Corps/Div<br>Cmd Guid.                 | Corps Level<br>Map | G-3<br>Estimate | G-2<br>Estimate | G-1/G-4<br>Estimate | Course of Action<br>Overlays | Current<br>Operations | Manuals |
| Time-Stress (n=7)     | .3                                     | .1                 | .1              | 12.0            | 2.1                 | 7.9                          | 5.6                   | 2.0     |
| No-Stress (n=6)       | 2.3                                    | 1.0                | 2.8             | 29.8            | 8.8                 | 11.2                         | 8.6                   | 2.1     |
| Significance<br>Level | $p < .10$                              | $p < .10$          | ns              | $p < .01$       | $p < .05$           | ns                           | ns                    | ns      |

No-stress participants also consulted approximately twice as many information sources during the analysis portion of the experiment as did time-stress participants (7.7 versus 3.9 respectively). This difference was statistically significant,  $F(1,11) = 7.2$ ,  $p < .05$ .

As can be seen in Table 1, although no-stress participant used their extra time to consult more information sources than time-stress participants, they tended also to concentrate their extra time on specific sources of information rather than more generally at all information sources available to them. For example, no-stress participants spent, on average, two more minutes than time-stress participants (2.3 vs. .3) looking at the corps frag order and division commander's guidance. This difference approached statistical significance,  $F(1,11) = 3.46$ ,  $p = .087$ . Similarly, no-stress participants spent, on average, more time looking at the corps level map than time-stress participants (.1 minute vs. .1 minute), a difference which also approached statistical significance,  $F(1,11) = 3.78$ ,  $p = .075$ . Taken together, it suggests that one way in which no-stress participants spend their extra time is in trying to get a sense of the "larger picture" in terms of the intent of the division and corps commanders and how their mission fits in relation to the overall corps mission.

A second major area in which no-stress participants spent their extra time was looking at the G-2 estimate. No-stress participants, on average, spent more than twice as much time looking at the G-2 estimate as did time-stress participants (29.8 minutes vs. 12.0 minutes). This difference was highly statistically significant,  $F(1,11) = 9.8$ ,  $p < .01$ . One possible explanation for the increased use of the G-2 estimate was that participants were trying to resolve the uncertainties in the scenario, such as what the enemy threats were likely to be and where. This may explain why no-stress participants were more willing than time-stress participants to pick more risky COA and commit their forces along specific avenues of approach, namely, that they felt that they had resolved more of the uncertainties in the scenario. Additional support for this hypothesis is presented below.

A final source of information that no-stress participants checked more than time-stress participants was the G-1 and G-4 staff estimates (8.8 vs. 2.1 minutes). This difference was statistically significant,  $F(1,11) = 9.0$ ,  $p = .012$ .

Interestingly, the amount of time participants spent looking at the COA overlays did not show a significant difference based on the experimental condition, all F's were not significant. Perhaps this was because participants only needed a limited amount of time to study the COA and this was something they would have to do, regardless of the amount of time available to them.

Consistent with this was the finding that participants did not appear to spend more time on the overlays for the COA they eventually chose than they did on the ones for the COA they did not choose. For example, time-stress participants who overwhelmingly chose COA3, did not spend significantly more time looking at the COA3 overlay than on the other two overlays (mean time for COA3 = 4.8 minutes vs. 1.5 minutes per each other overlay,  $F(1,6) = 1.56$ ,  $p > .20$ ), although the effect was in the direction of the favored COA. Similarly,

no-stress participants spent on average 4.1 minutes looking at the COA2 and COA3 overlays (their favored COA) which was not significantly longer than the 3.1 minutes spent looking at the COA1 overlay,  $F(1,5) = 1.5$ ,  $p > .20$ .

However, these findings should not be taken to suggest that participants did not spend more time analyzing individual COA in the no-stress condition or that they did not spend more analysis time on their favored COA, but rather the amount of time spent on the COA overlays did not depend on condition or COA preference. Unfortunately, we were not able to obtain measures of amount of time used to analyze each COA, partly because much of the analysis was independent of specific COA.

### Content Analysis of Participants Decision-Making Processes

The protocols provided by the participants were analyzed for insights into their decision-making processes. In particular, three factors were looked at: the number of decision criteria participants used to make their final recommendation, the number of formal analysis methods used to evaluate the COA, and sources of uncertainty that participants said they were concerned with and tried to address in their decision making. Data pertaining to these measures were obtained through the participants explicit comments and notes that participants made throughout the experimental sessions.

It should be noted that analyses such as these run the risk of omitting factors that are not explicitly stated or written down, but were considered by the participants nevertheless. However, it was judged that if such omissions did occur, they would be distributed roughly equally between the time-stress and no-stress conditions. The reasoning behind this was twofold: first, time-stress participants were given essentially unlimited time to discuss their decision-making processes without having their analysis time penalized. Time-stress participants did, in fact, appear to take their time in these discussions (in fact, one could argue that they would be motivated to spend even more time than no-stress participants in these discussions to provide themselves with extra time for "think-aloud" analysis, a factor which would work against the results presented below) and behave like no-stress participants in this respect. Second, although one could argue that, in a shortened time-span, time-stress participants would spend less time than no-stress participants making notes to themselves, the written notes tended to add very little in the way of content to the "discussion notes" so any effect due to this would be negligible.

### Decision criteria used in the final recommendation

Decision criteria were defined as criteria that participants used to evaluate the goodness of the COA. Such criteria included things like flexibility, size of reserve, optimal use of combat power, scaff supportability, etc. On average, no-stress participants listed 4.2 such decision criteria while time-stress participants listed 3.1. This difference in number of criteria was not statistically significant,  $F(1,11) = 1.7$ ,  $p > .20$ . Similarly, there did not appear to be any systematic difference in the type of decision criteria used between time-stress and no-stress participants.

### Formal analysis methods used to evaluate the courses of action

Analysis methods were defined as formal procedures for providing values to such decision criteria as those listed above and combining or trading off those criteria. Examples of formal analysis methods include wargaming (constructing event scenarios), computing combat power ratios, and developing decision matrices. In obtaining measures of analysis methods, looking at the G-2 estimate and analyzing enemy avenues of approach were not counted as analysis methods since much of this analysis was done in the introduction phase of the study (when no experimental manipulation was imposed) and since every participant did these, including these methods would not alter the results presented below.

On average, no-stress participants used 3.2 different analysis methods compared to 1.4 methods used by time-stress participants. This difference was highly statistically significant,  $F(1,11) = 16.4$ ,  $p = .002$ . One of the major hypotheses in the present study was that under conditions of time stress, participants would rely on more general or intuitive methods of analysis as opposed to more analytical methods. This tended to be true as the most common analysis method used by time-stress participants was to do a general wargaming of a favored COA against the enemy's most likely COA. Three of the seven stress participants used this method exclusively while a fourth considered only combat multipliers. Only three of the time-stress participants used two methods whereas all the no-stress participants used multiple methods. The additional methods used by the no-stress group included force ratios, terrain and weather analysis, predicting from soviet doctrine, force composition analysis, logistical supportability, decision matrices, and ranking of staff estimates. Further support for this hypothesis was obtained from comments that time-stress participants made in the debriefing segment of the study, where many of them stated that the time limit imposed on them made them approach the problem more intuitively and, had they had more time, they would have supplemented their analysis with more analytical techniques.

### Sources of uncertainty participants were concerned with

During the debriefing segment of the study, participants were asked what sources of uncertainty they were concerned with during their analyses and what they had tried to resolve. Their answers to this question, as well as comments made during the rest of the session, served as the source of data for this dependent variable.

On average, no-stress participants listed 2.2 sources of uncertainty they were concerned with, while time-stress participants listed .9 sources. This difference was statistically significant,  $F(1,11) = 7.9$ ,  $p < .02$ . Not surprisingly, the most common source of uncertainty was the enemy's intentions. In addition, more of the no-stress participants expressed concern with things like the north flank (where the corps boundary was), the movement of the 7th TA, and the possibility of chemical and nuclear warfare. This suggested that no-stress participants may have been considering the scenario on a broader scale than the time-stress participants were.

## DISCUSSION

The results of the present study suggest that time stress and uncertainty have an influence on the G-3 decision-making process. The difference can be described in terms of four general categories: considerations, analysis methods, information use and eventual decisions.

In terms of considerations, no-stress participants, in general, seemed to consider the problem from a broader perspective than time-stress participants. Specifically, they seemed to consider the problem more from a corps perspective as well as that from their division and also gave more long-range considerations, such as worrying about what impact the advancing 7th TA might have both on themselves and on the corps.

A second major difference between the no-stress and time-stress participants was that the former gave more consideration to the uncertainties in the scenario and appeared to try to resolve them.

In terms of analysis methods, no-stress participants tended to use more formal methods and more methods in general to analyze the problem than did time-stress participants. The time limit imposed on these participants led them typically to conduct their analyses using more general, intuitive methods.

Time stress resulted in participants using fewer information sources as well. In particular time-stress participants spent less time looking at information that presented a corps-level perspective to the problem and information which could help resolve any uncertainties present in the scenario.

In general, from the information and analysis methods use data it can be concluded that time stress resulted in a reduction of decision making "breadth" rather than "depth". Time-stress participants appeared to consult fewer information sources (on average they spent more than 25% of their analysis on the detailed G-2 estimate) rather than skim many sources (they consulted about half as many information sources as the no-stress participants did). Similarly, rather than get crude analyses from several analysis methods, they seemed to explore more general methods in depth (perhaps achieving breadth through the generality of the methods they chose).

One could argue that differences in considerations, analysis methods and information use resulting from time stress would not be critical if decision makers under time stress would arrive at the same decisions as they would if given unlimited time. However, in the present study, time-stress participants did make different recommendations than no-stress participants--recommendations which tended to be more conservative than those made by the no-stress participants.

We have no means of evaluating the "goodness" of the recommendations (as there was no school solution to the problem), and, in fact, many of the participants believed that both COA2 and COA3 (the recommendations that participants gave) would be adequate solutions to the experimental scenario. Hence, we cannot conclude from the present study that the no-stress participants made

"better" decisions than the time-stress participants. However, the finding that under time-stress, participants made more conservative recommendations is an important one. If this is, in fact, a general tendency, then it could have important implications for tactical decision making, particularly under conditions where conservative decisions may not be appropriate for mission accomplishment.

### A General Theoretical Framework

Given the findings of the present study, we offer a sketch of a theoretical framework for how the decision making process might be influenced by factors of uncertainty and time stress. Unfortunately, due to the limited scope of the present study, uncertainty was not manipulated as an independent variable, i.e. there was no "high uncertainty" condition and "low uncertainty" condition. Hence, the role of uncertainty in our framework is presented in the form of hypotheses which could be tested in future research. An important premise in our framework is that uncertainty will be considered important and relevant by decision makers to the extent to which it relates to their ability to achieve their objectives or mission. This premise gains support from the present study in that participants appeared to limit uncertainty to that which has to do with mission accomplishment. Hence, for the remainder of this section, "uncertainty" refers to mission success uncertainty.

We consider five factors in the decision making process and discuss how uncertainty and time stress might affect them. The five factors are objectives, scope, options, information and analysis methods. Objectives refer to the particular goals that the decision maker has, or in the case of the G-3, his mission. Scope refers to the breadth or range over which the decision maker defines the problem. Scope could then influence the other factors as well (e.g. the decision maker's range of objectives, options and information considered and analysis methods used). Options refer to the possible choices or courses of action to achieve objectives. Information and analysis methods would then be decision making tools for evaluating options as they pertain to one's objectives.

It is argued that the desire to achieve one's objectives guides the decision making process. Hence, it is argued, that a decision maker is motivated and will continue to engage in the decision making process until a satisfactory option (course of action) is reached which will achieve the objectives (mission). Given this premise, time stress and uncertainty regarding mission success would have conflicting effects on the decision maker. Mission success uncertainty would lead decision makers to want to continue the decision making process until a satisfactory solution is reached, whereas time stress cuts short that decision making process. Given this potential conflict between time stress and uncertainty, we offer some hypotheses as to how decision makers under such conditions might attempt to resolve the conflict.

Under conditions of time stress, decision makers (unless they receive help) will be forced to make concessions. One possible concession is to reduce the scope of their problem either reducing the number of objectives they attempt to achieve, or considering a smaller piece of the problem. Such reduced scope was seen in the present study where participants under time stress paid

less attention to the corps-level picture of their mission and dealt with more immediate threats (e.g. the 9th GTD as opposed to the 7th TA). In all, we list three ways in which problem scope can be reduced under time stress: number of objectives achieved (including both corps and division level), the area of the battlefield over which the problem is defined (e.g., main, deep or rear) and the temporal scope of the problem (how far into the future the problem is defined).

Reducing problem scope allows the decision maker to approach a part of the problem in depth, rather than the entire problem in breadth. As argued earlier, time-stressed participants seemed to do an in-depth analysis rather than an in-breadth analysis. Reducing problem scope allows a decision maker under uncertainty and time stress to resolve uncertainties over a limited part of the problem rather than resolving little uncertainty over the whole problem.

Uncertainty would motivate decision makers to want to consider several options in order to increase the chances of finding one which would achieve the mission. Time stress would reduce the time available for doing so. One way to resolve this conflict would be to consider "safe", tried-and-true or "doctrinal" COA. In the present study, time-stress participants did end up selecting COA3, a conservative COA which embodied the classical doctrinal philosophy of "two up and one back" and kept sufficient force in reserve to react to either enemy avenue of approach.

Uncertainty would motivate decision makers to seek information relevant to resolving that uncertainty, while time stress interferes with the decision maker fully carrying that out. One means of resolving this conflict would be to focus in-depth on information sources most relevant to resolving uncertainties. Consistent with this is the finding that, on average, time-stress participants spent more than 25% of their analysis time reading the detailed G-2 estimate.

Finally, uncertainty would motivate decision makers to use several analysis methods to get a complete analysis of the problem. We hypothesize that, to the extent to which mission success is uncertain, decision makers will want to account for all the relevant causal agents in the scenario and will use a breadth of analysis methods to do so. Time stress would prevent decision makers from using a breadth of analysis methods, thus forcing decision makers to employ more global, intuitive methods as evidenced in the present study.

It should be noted that even the no-stress participants did not use all the analysis methods taught to them as part of Army doctrine, but rather tried a few of them. One reason for this was undoubtedly that even for non-stress participants there were practical limits on the time available. However, another reason why they might not have been motivated to spend more time is that they felt that there was not much uncertainty inherent in the scenario. While this is only speculation, this hypothesis could be tested by varying the level of scenario uncertainty and measuring the number of different analysis methods used. This will be discussed later.

Concepts for Aiding Decisions  
Under Conditions of Uncertainty and Time Stress

Given the results of the present study and the framework outlined in the previous section we argue that the focus of decision aiding would be best directed at supplementing the breadth and scope of the decision making process, as opposed to the depth of that process.<sup>1</sup> Two areas where the decision making process could be "broadened" under uncertainty and time stress relate to the amount of information and number of analysis methods which decision makers use.

We suggest three methods for helping decision makers process information more broadly and effectively. One method would be to provide a "screen" which could weed out unimportant information from important information, thus allowing them to consult a wider range of data sources, while obtaining only useful information. A second method would be to give decision makers the ability to query databases for the information that they need (i.e. to answer specific questions), rather than have them sift through large bodies of information. A third, related method would be to provide information summaries which highlight important information (this was included, to some extent, in the present study).

The implementation of these aiding concepts could be done in several ways. One such method would be through intelligent, automated systems which could screen, sift through or summarize data. A second means would be to organize the decision maker's staff in such a way as to maximize these functions.

Additional aid could be provided to decision makers by supplementing their analyses with additional analyses. The results of these supplemental analyses could be presented to the decision maker so that they could be integrated with analyses already performed.

Again, this type of aiding could be implemented through an intelligent system or through staff members. It is probably the case that more computational methods such as computing combat power ratios could be done best by a computer, whereas other more subjective methods (such as a decision matrix) should be done by the decision maker or his staff, possibly with the help of a computer which could perform the computations once the decision maker defined the relevant decision attributes, weights and values.

It should be noted that these aiding concepts could apply to low stress situations as well. We hypothesized that under conditions of low success uncertainty, decision makers would not be motivated to seek a lot of information and perform extensive analysis. Hence, overconfidence could lull decision makers into becoming lax in their decision making. Hence, aiding concepts such as those listed above might be useful in aiding decision making even under conditions of low time stress and perceived low uncertainty as well.

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<sup>1</sup>This recommendation is based upon the conclusion from our data that increasing the breadth and scope of decision making under time stress would improve the final decision. An alternate interpretation of our findings could be that the no-stress participants were too risk seeking; the additional time for analysis may have resulted in overconfidence in a risky decision. Further research on the combined effects of time stress and uncertainty should help resolve this issue.



### Estimates of Technical Feasibility

The results of the present study suggest both that: the question of what effects uncertainty and time stress have on decision making is an important one to pursue (in that significant differences between no-stress and time-stress subjects were obtained) and, that the present methodology is a useful research tool to pursue this question.

The results of the present study suggest a framework and set of testable hypotheses for how uncertainty and time stress affect the decision making process. The framework has important implications for how the decision making process should be aided under such conditions.

The present methodology was useful in that it gave data on decision makers' choices, analysis methods and information use which could be subject to statistical analyses. An additional strength of the present methodology is that it could easily lend itself to testing the effectiveness of aiding concepts (such as those outlined in the previous section).

However, if this research methodology were to be pursued, several modifications would need to be made. We discuss four of these modifications (most of which were suggested or implied by the participants themselves).

The primary change would be to have the scenario be "dynamic", rather than "static". In the present study, participants were given all the relevant information before they began their analysis. Future information elaborated upon, but did not update, the information they had been previously given. In a realistic setting, the situation would be constantly changing with new information replacing old. Hence, decision makers would be forced to evaluate this information and be forced to decide whether or not to re-evaluate their assessment of the situation. A dynamic situation accomplishes two additional things, both of which are relevant to our project's objectives. First, in a dynamic scenario, the future state of the world is an inherently uncertain thing. Hence, dynamic scenarios are intrinsically more uncertain than static scenarios. Second, one implication of a dynamic scenario is that the decision maker may not know when he will be forced to make a decision and act. Hence, a dynamic scenario is ideal for imposing a sense of "time stress" which more closely simulates real-world time stress.

We would recommend that future studies be conducted by giving participants evolving situations where they periodically receive new information which updates and occasionally drastically changes the scenario.

A second major change would be to increase the amount of uncertainty in the scenario. As stated earlier, many of the participants felt there was little uncertainty in the scenario, primarily due to the good G-2 estimate, the good condition of the division (both from a personnel and logistics standpoint) and the depleted state of the enemy forces in contact. In addition to making the scenario dynamic (which we argue would increase the inherent uncertainty in the scenario), uncertainty could be added to the scenario by making the enemy situation more challenging (e.g. make the strength of the enemy less well

known or stronger, have them placed where they have several likely COA), and give the division personnel and logistics problems. This would increase the amount of uncertainty regarding whether or not the decision maker could accomplish the mission (which seemed to be how they were conceptualizing uncertainty).

A third, somewhat minor change would be to present participants with the COA after the familiarization part of the study as opposed to during the familiarization part to prevent them from beginning their analysis earlier than intended by the experimenter (thus potentially reducing the effectiveness of the time limit).

Finally, consideration should be given to including assistants to the decision maker under conditions of uncertainty and time stress. This issue is raised since the G-3 would have a staff available to him under realistic settings. Hence, there is a danger that findings obtained under the present methodology might not generalize to real world contexts where decision making is a group process rather than an individual one.

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**APPENDIX A**  
**EXPERIMENTAL MATERIALS**

# **INSTRUCTIONS TO SUBJECT (At Start of Experiment)**

1. You are the new G-3 of the 52 MID, having just arrived at the division main CP. It is now 0700 hours on 19 August.
2. The Division Commander is in the field inspecting forward positions. He has left orders for you to be briefed by the G-3 Plans Officer on the corps situation over the last three days and on the Commander's planning guidance. He has asked the G-1, G-2, and G-4 to prepare preliminary staff estimates based upon his guidance and to provide you with summary briefings. Detailed staff estimates will be provided later.
3. You are to review the situation, analyze courses of action, and make a recommendation as part of the G-3 staff estimate for continuing the defense.
4. All available information for your planning is contained in the G-3 Plans file which is available to you.

### G-3 Plans Officer Introductory Briefing

Good Morning, Sir. I will begin the briefings this morning with an overview of the situation to date. I would ask that you please hold any questions until completion of each briefing.

#### Problem Introduction

(Use Overlay 1, dtd 160600 Aug)

#### A. Original Corps Disposition

1. US 10th Corps with two divisions (52 MID and 23 AD) and the 201st ACR was to defend from approximately 7km north of Bebra to approximately 8km south of Fulda, a frontage of about 65km.
2. 52 MID was on the north flank, defending a 35km front which extended south to just beyond the Stoppelsberg, while 23 AD had about a 30km front from there south.
3. The MBA was to run generally along the Fulda and Haune Rivers.
4. The 52 MID formed its own covering force to operate between the MBA and the International Boundary while the 201st ACR acted as the covering force in front of the 23 AD.
5. On the north flank of 52 MID was the 28th Panzer Division, assigned to the southern flank of the German 3rd Corps.

#### B. Original Corps Mission

1. The Corps mission was to defend its assigned sector, preventing significant enemy penetrations into West Germany, to defeat the 10th CAA and the 4th TA, and to provide a base for the CENTAG counterattack.
2. The 52 MID mission was to defend in sector and to destroy the first echelon divisions of the 10 CAA.
3. It was anticipated that the major enemy thrust into the 10 Corps sector would take place around Hunfeld and might consist of as many as 4 divisions of the 4 TA with the 3 divisions of the 10 CAA operating on about a 40km front to the north of Hunfeld. Thus, priority of assets had gone to the 23 AD.

## Current Situation

### A. History to Current Time (Use Overlay 1)

1. Since this overlay was drawn, the frontage of the 10 CAA turned out to be much narrower than what was originally thought and the disposition of forces within the 10 CAA were different than originally supposed.
2. Early on 17 August the 10th CAA attacked across only about a 26km front, roughly the area defended by 1st and 2nd Bdes of the 52 MID in the north. In a surprise move, they attacked with their tank division leading which quickly rolled up the covering force.
3. In a well-coordinated attack, around 1800 on the 17th, the two MRDs of the 10 CAA then penetrated our main defense line on the north and south flanks of the 9TD, apparently attempting a double envelopment of 1st Bde and parts of 2nd Bde.
4. The double envelopment was halted but similar problems in 23 AD sector made the main defense line untenable and the Corps commander ordered a pull back to phase line Bravo around 0600 on 18 August some 30 hours after the initial attack.
5. For the past 24 hours, 1st and 2nd Bdes have been steadily delaying back to phase line Charlie under heavy pressure by the 71st MRD in the north and the 128th MRD in the south.
6. Meanwhile, the fighting in the 3rd Bde sector had been relatively light. They have been facing elements of the 48th MRD of the 4th TA since the onset. It is apparent now that the 48th MRD has been screening between the two main thrusts of 10 CAA in the north and the other 3 divisions of the 4th TA in the south.

(Go to Overlay 2, dtd 190600 Aug)

7. Due to the critical situation on both flanks, the Corps commander decided yesterday afternoon to relieve the 3 Bde of the 52 MID and elements of the 1st Bde, 23 AD by bringing the 201 ACR on-line in that area. This occurred during the night last night.

### B. The Current Situation

1. Last night on 18-19 August, elements of the 71 MRD and the 128 MRD launched 3 separate attacks against 1 and 2 Bde positions, nearly penetrating our defenses in all three instances. They attacked toward Homberg in the north forcing our defenders back to just east of that city; the situation has settled down in that area. They also attacked toward Schwarzenborn, actually penetrating our lines at one time, but have now withdrawn east of the Efze River in that sector. Finally, around 0200 this morning, 19 August, they launched an allout attack up the Aula River valley, nearly resulting in a rout of the troops in that sector; however, a new defensive line has been established west of Oberaula and things have also calmed down in that sector. In fact, except for close range fighting south of the Schwarzenborn Gap, things have settled

down all along the 52 MID front, with 71 and 128 MRDs apparently fairly well spent.

2. The 201 ACR has relieved the 3rd Bde which, with its two remaining battalions, has withdrawn into the Schonberg area awaiting further orders.
3. During the intense fighting last night, the 9TD of the 10 CAA crossed the Fulda with almost no interdiction and are now in assembly areas only 10-15kms from our frontlines.
4. Also the 7 TA has been moving up the autobahn by night marches and has apparently settled in for the day with its lead elements around Eisenach, only about 60km from 52 MID frontlines.
5. 28th German Panzer Division is holding well against moderate to heavy pressure in the north by elements of the 8 CAA. On our southern flank, 48 MID of the 4 TA shows no signs of pressing the attack against the 201 ACR. Further south, the 23 AD is on good defensive terrain east of Lauterbach and now appears to be in no immediate danger. Thus, the Corps commander has no immediate plans for a general withdrawal.



52 DIV MECH (USE GERMANY 1:50,000 SCHLITZ-ALSFELD with Order of Battle OVERLAY)

The 52nd has been in a very significant fight over the past two days, and I believe that we have given a good account of ourselves. We have taken considerable casualties, but we have probably given better than we have taken. I have just come back from talking with the Corps commander, and we both agree that the current lull in the battle will give us an opportunity to regroup, re-organize, and resupply. Our basic mission remains unchanged; namely, to defend in sector, to destroy the first echelon regiments of the 10th CAA, and to prevent a breakthrough in our sector which would permit the enemy to roll up the flanks of our adjacent units as well as to seize the communications center of TREYSA.

As you know the 201st ACR has relieved two battalions of the 3d Brigade, and this relief allows us to shorten our defensive lines and to establish a reserve sufficient to counterattack any attempted penetration into our area.

Despite the fact that the 201st ACR has taken over on our south flank. I still consider the BAD HERSFELD-ALSFELD corridor a potential enemy avenue of approach. G2, we will watch that situation to ensure that the enemy does not open up our south flank.

I see two other critical avenues of approach into our sector; first, the BAD HERSFELD-NEUKIRCHEN-TREYSA avenue which is the most likely and most direct approach in our area for enemy entry into the KASSEL-FRANKFURT corridor. Secondly, enemy pressure on the 28th Panzer Division along the corps north boundary could provide an avenue of approach along our north flank through OBERBEISHEIM-HOMBERG-BORKEN which could provide the enemy direct access to our rear area from the northeast. I am very concerned about this. Such a flanking action could split the NATO forces in two. While I don't expect a main attack here, if we guess wrong on this one, we put ourselves in a very dangerous position.

I see at least three broad courses of action that might be worth developing;

CA 1- Defend assigned sector with brigades on line weighted to defend against an enemy main attack along the OBERBEISHEIM-HOMBERG-BORKEN (northern) avenue of approach and the reserves located well forward in a position to counterattack an enemy penetration.

CA 2- Defend assigned sector with brigades on line weighted to defend against an enemy main attack along the OBERAULA-NEUKIRCHEN-TREYSA (southern) avenue of approach and the reserves located well forward in a position to counterattack an enemy penetration.

CA 3- Defend assigned sector with two brigades on line balanced to defend against an enemy main attack along either the OBERBEISHEIM-HOMBERG-BORKEN avenue or the OBERAULA-NEUKIRCHEN-TREYSA avenue with the reserve brigade located rearward in a position to block or counterattack an enemy penetration along either avenue of approach.

I don't want you to feel constrained by these, though. G3, you have the freedom to modify them as you see fit. If appropriate, eliminate courses of

action as necessary, and don't hesitate to suggest a better one if you can.

G2, I want a sizable intelligence collection effort to address the activities of the 10th CAA but also the activities of the enemy's 7th Tank Army in reserve. Commitment of the units of the 7th TA can cause us some very serious problems. Reports of any activities there will give me an early indication of his intended course of action. Keep a critical eye on all of his second echelon units.

G3, don't overlook the necessity for rear area operations to protect our combat service support installations and operations. If he dumps some air assault elements in behind us, he could really give us fits.

G1, get humping to get us some replacements as quickly as possible. If we want to remain combat effective, and I assure you we do, we cannot continue our casualty rates without significant replacements.

G4, keep your logistical installations dispersed and not too far forward. Coordinate closely with the G3 as you analyze the courses of action and make sure we have the maximum flexibility and protection for the logistical operations.

As you prepare your estimates, keep in mind that the enemy has the capability to use both nuclear and chemical weapons to support his attack; therefore, you should analyze all of our possible courses of action in light of this possibility. Let's not present him so lucrative a target that he cannot resist the use of nuclear and chemical weapons. I will say, however, that as long as he is enjoying some success in his attack by using conventional weapons, I do not expect him to escalate the conflict by using tactical nuclear weapons. G2, I want to know immediately if you have any indication of his possible use of these weapons.

If there are no questions, the Chief of Staff will schedule the presentation of your staff estimates.

## FRIENDLY COURSES OF ACTION

### COURSE OF ACTION 1 (Use overlay for C\A 1)

52nd defends in sector to defeat first echelon of the 10th CAA along the current line of contact. No covering force will be used since units are already in contact. Division will defend with 3 brigades on line with each of the northern 2 brigades defending a narrow sector in order to weight the defense against the most dangerous avenue of approach. The 1st and 3rd brigades will defend in depth, and the cavalry squadron along with a mechanized infantry battalion will form the reserve located well to the rear. The 2nd BDE will defend along a broad front and will be prepared to assist the 3rd BDE should penetration occur. The 1st Bde will have 4 battalions and will be armor heavy to take advantage of the open terrain west of Homberg. The 3rd BDE will have 3 battalions and will be mech infantry heavy. The 2nd BDE will have 3 battalions and will be mech infantry heavy in anticipation of a secondary attack in this zone. Initial priority of fires to 1st and then to 3rd BDE and 2nd BDE. Be prepared to counterattack on order. The main effort is initially focused in the north.

### COURSE OF ACTION 2 (Use overlay for C\A 2)

52nd defends in sector to defeat first echelon of the 10th CAA along the current line of contact. No covering force will be used since units are already in contact. Division will defend with 3 brigades on line with the 2nd brigade in the south defending the narrowest sector in order to weight the defense against the most likely avenue of approach. The cavalry squadron and one mech infantry battalion will form the reserve located well to the rear. The northern brigade will defend along a broader front and will be prepared to assist 3rd BDE should penetration occur. The 2nd BDE will have 4 battalions and will be balanced. The 3rd BDE will have 3 battalions and will be armor heavy to defend against the high speed avenues of approach through SCHWARZENBORN. The 1st BDE will have 3 battalions and will be mech infantry heavy to take advantage of the more rugged terrain in the MBA. Initial priority of fires to 2nd BDE and then to 3rd BDE and then 1st BDE. Be prepared to counterattack on order. The main effort is initially focused in the south.

### COURSE OF ACTION 3 (Use overlay for C\A 3)

52nd defends in sector to defeat 1st echelon of the 10th CAA along the current line of contact. No covering force will be used since the units are already in contact. Since we are hedging against the location of the enemy main attack, we will defend with the 1st Bde in the north, the 2nd Bde in the south, and the 3rd Bde providing defense in depth across the division area. As soon as the location of the main attack is determined, 3rd Bde will move forward to strengthen the defense along that avenue of approach. Due to terrain considerations and uncertainty about the location of the enemy's main attack, both the 1st Bde (4 battalions) and the 2nd Bde (4 battalions) will be balanced between armor and mech infantry. The 3rd Bde, acting as the Division reserve, will have 4 battalions and will be balanced. The MBA will be fought well forward with 2 bdes on line to defeat the leading elements of the attacking force. Priority of effort goes to the 2nd Bde in the south to include priority of artillery fires, close air support, and reserves. Forward brigades should be prepared to withdraw to Phase Line ALPHA on order. The main effort is initially balanced across the division front.

## PRELIMINARY G1 SUMMARY (190600 AUG)

Sir, overall, the division is at approximately 88 percent strength. Major MOS shortages exist for infantry and tank platoon leaders, infantry NCOs, and tank crewmen. Projections for individual replacements are estimated at 10 officers and 120 enlisted personnel per day.

I have done a preliminary analysis of the 3 courses of action outlined by the commander. The terrain generally supports all three CAs from a G1 perspective. There are adequate road networks and ample cover and concealment. Weather is favorable for replacement operations.

You are already aware of the enemy situation. Continuation of the enemy attack will generate moderate friendly casualties. Enemy long-range artillery and air strikes can disrupt replacement operations. Enemy guerrilla and air-mobile units can inhibit personnel operations. Enemy capability to employ nuclear and chemical weapons could cause mass casualties.

There are no projected developments within the logistic field likely to influence personnel operations.

The refugee control and evacuation problem is acute and may require the attachment of a Psyop Bn as well as CA Bn for assistance in these functions. The overriding civil-military operation consideration is the protection and control of the populace to prevent civilian interference with military operations.

### Analysis and Discussion

I have estimated division losses for the next 3 days for each course of action. All CAs would reduce our strength to about 75 percent with CA 2 (2500 losses) being a little better than CA 3 (2600 losses) and CA 1 (2700 losses) being the worst.

The mechanized infantry battalion task forces are expected to suffer the largest proportion of division losses under all courses of action, and by 211800 Aug will have become marginally combat effective. Both infantry and armor replacements are urgently required. The projected replacement rate will not meet requirements, even though replacements will be at the rate of 130 per day, and the quality of replacements will be good.

Battalion aid stations and division clearing stations have been operating at near capacity since the fighting began on 17 Aug. Both air and ground medical evacuation have been performed efficiently, and no problems in this area are anticipated. Support services are adequate to support all courses of action.

The dominant personnel factors are strengths, replacements, and evacuation and hospitalization. All courses of action will influence personnel readiness and morale approximately equally.

CA 1 will have the greatest impact on the strength of divisional combat units since the division will be fighting with most of the battalion task forces engaged in decisive combat on a narrow front. This will lead to a higher rate of casualties. CA 1 also poses the greatest threat to personnel operations and to the division LOC.

Losses under all courses of action should reduce the division strength to the point that continuation of effective combat will be difficult. In all courses of action, 52d Mech Div will require significant numbers of trained replacements, particularly infantry replacements, to sustain combat operations.

However, CA 3 will require more rearward placement of division clearing stations thus extending medevac capabilities. The least impact on evacuation and hospitalization is associated with CA 1 and CA 2.

### Conclusions

The mission can be supported from a personnel standpoint; however, after three more days of fighting the division strength will be close to 75 percent, and significant replacements will be required in order to sustain combat operations.

Course of action 3 can best be supported from an overall personnel standpoint.

I recommend that the available replacements should be distributed with minimum delay to those battalion task forces at marginal combat strength, and the corps commander should be informed of the urgent need for infantry and armor replacements.

Sir, the current logistic situation is good, and resupply distances are essentially normal. There are no critical shortages in Class I, II, and III. Basic loads of ammunition for all units have been replenished. Transportation assets are adequate to support CSS operations.

I made several assumptions about the enemy situation. The enemy will not employ nuclear or chemical munitions without warning. Supplies will be available to support continued defensive operations as planned. Finally, the enemy will not deploy airmobile forces into the division rear area.

#### Analysis and Discussion

Sufficient area for logistical operations is available to support any of the courses of action. Rear area contains sufficient small towns and wooded areas to accommodate CSS activities.

Evacuation of equipment to DS units for repair becomes excessive as CSS units are disposed in depth. Spare parts (Class IX) are available to support all courses of action. Corps has not yet established any controlled supply rates for Class V; therefore, all RSRs can be accommodated. MSRs are available, are designated, and are capable of supporting all courses of action. Projected supply requirements will exceed capability of available vehicles. Positioning of supply points any farther rearward will aggravate the transportation problem.

Shortages in transportation can be partially reduced by requesting unit distribution of selected items by corps direct to division supply, distribution, and transfer points as well as to selected units. Transportation problem may be exacerbated by more rearward positioning of CSS installations; therefore, forward positioning of CSS operations is called for.

Course of action 1: More forward positioning of division CSS installations is demanded to cover both MBA defense and defense of north flank. Adequate area is available to do this. This in turn decreases demand for transportation and other support services to MBA units. Shorter supply lines within the division sector decrease the rear area security problem.

Course of action 2: More forward positioning of division CSS installations is demanded to cover both MBA defense and defense of south flank. Adequate area is available to accommodate forward positioning of CSS installations. Forward location of logistical installations decreases demand for transportation and other support services to MBA units. Shorter supply lines, again, within the division sector decrease the rear area security problem.

Course of action 3: This CA requires putting forward support battalions up and division CSS well to the rear. Adequate area is available to accommodate forward positioning of brigade support areas (BSA). Shortage of Class IV will make it difficult to establish deliberate defensive positions in the MBA in both brigade areas. Rearward positioning of division CSS installations will exacerbate the transportation problem. Unit distribution of all supplies by corps support units will provide greatest assistance to division units under this course of action, but that may not be possible. Good roads support this distribution decision, but the longer supply lines increase the rear area

security problem

Conclusions

The operation can be supported logistically.

CA 1 and CA 2 can be equally supported logistically with CA 3 being far less desirable. Recognition is given to the fact that enemy's adoption of a specific course of action will dictate selection of the friendly course of action.

PRELIMINARY G2 SUMMARY (Based on Division Commander's Planning Guidance)  
(190700 AUG)

(See Terrain Analysis Overlay)

I will focus my briefing on the terrain analysis and discussion of enemy courses of action.

In the North, a division-size avenue of approach exists through OBERBEISHEIM which breaks into several regimental-size avenues of approach through HOMBERG to BORKEN. High-speed avenues exist along the roads, and the terrain west of HOMBERG is wide open with good observation. The enemy objective is likely to be BORKEN before heading southwest to the communications center at TREYSA. Key terrain is as indicated on the overlay.

In the central sector from REMSFELD to GREBENHAGEN, only narrow avenues exist. There are good roads through the area, but there are many areas where the terrain is steep and canalizing. The likely objective is the communications center at TREYSA, with key terrain as indicated on the overlay. Cover and concealment are plentiful.

In the south KIRCHEIM-OBERAULA-NEUKIRCHEN is the primary avenue which is able to support three regiments abreast. Wide open terrain beyond NEUKIRCHEN provides a flanking corridor into TREYSA and ALSFELD. Cover and concealment is good up to NEUKIRCHEN, but the terrain there turns into wide open plains. Key terrain shown on the overlay controls major roadways through the area. High-speed approaches to TREYSA exist beyond NEUKIRCHEN.

#### Enemy Situation

We are facing only units of the 10th CAA with the 71 GMRD committed on our left and the 128th MRD committed on our right. The 9th GTD has crossed the FULDA and is positioned as shown. An additional tank Army, tentatively identified as the 7th TA is moving up to the rear.

The 62nd and 65th MRRs of the 71 GMRD and the 46th MRR of the 128 MRD are of marginal combat effectiveness.



The enemy has significant resupply and replacement problems at this time.

It is most likely that the enemy will continue the attack although he has the capability to defend in his present position. He can also reinforce or attack with the 9th GTD.

#### Analysis and Discussion

Attack with main effort OBERBEISHEIM-HOMBERG-BORKEN. Present dispositions of threat forces do not favor adoption of this capability. The avenues of approach are narrow and cause fragmentation of the enemy force. The lead regiments in contact of the 71st GMRD are incapable of further combat and the terrain would channelize the high speed armor avenues of approach for the 9th GTD. This avenue poses high risk to friendly forces in that the enemy could penetrate along the 28 Panzer Division-52 MID Boundary, turn the division and corps flanks, cut north-south lines of communication, and open the way for exploitation by the 7 TA.

Attack with main effort BAD HERSFELD-OBERAULA-TREYSA. Present dispositions of threat forces indicate adoption of this capability. The avenue of approach is adequate enough to support at least two regiments abreast although the terrain is the most defensible in 52 MID sector. It is likely that a main attack will be conducted in this area through which he could move quickly to the communications center at TREYSA. 9 GTD is positioned to quickly pass through the 128 MRD to lead the attack and could be readily reinforced by elements of 7 TA.

Attack with main effort KIRCHHEIM-LINGELBACH-ALSFELD. Enemy dispositions do not favor this capability. The avenue is the longest approach into our position and would expose a flank of the enemy force to our counterattack from the west. This approach is, however, the most direct route to FRANKFURT and would attempt to penetrate the most lightly defended portion of the 10 US Corps front.

Defend in present position. A defense in position would allow the enemy to reorganize and resupply; however adoption of this capability would cause the

enemy overall operation to lose momentum and would permit friendly forces considerable opportunity for replacement and resupply and to seize the initiative to restore the ICB. Enemy troop dispositions do not favor this capability.

**Reinforcement.** Present enemy dispositions indicate that this capability is highly probable principally with the 9 GTD and 7 TA.

**Employ chemical agents.** There are no indications that the threat will employ chemical weapons.

**Employ nuclear weapons.** There is no indication that threat forces will employ nuclear weapons.

### Conclusions

#### *Effect of Intelligence Considerations on Operations*

The mission can be supported from an intelligence standpoint. Significant enemy casualties in first echelon regiments indicate that continuation of enemy offensive operations is not possible without significant reinforcements; however, ready availability of 9 GTD and 7 TA as reinforcements indicates that enemy is prepared to continue his attack.

#### *Effect of Area of Operation on Own Courses of Action*

Terrain favors our continued defense since we occupy very defensible high ground. The high speed avenues of approach in the south invite enemy attack vicinity of OBERAULA-SCHWARZENBORN. Weather will give us good observation and fields of fire for the next couple of days, and as rain and cloud cover moves in on 21-22 August, enemy cross country movement will be considerably hampered, thus enhancing our defense.

#### *Probable Enemy Courses of Action*

Ranking of enemy courses of action from most likely to least likely:

1. Attack with main effort along BAD HERSFELD-OBERAULA-TREYSA Avenue by elements of the 9th GTD supported by elements of the 128 GMRD.

2. Attack with main effort along OBERBEISHEIM-HOMBERG-BORKEN Avenue by elements of the 9th GTD supported by elements of the 71 GMRD.

**Additional Information:**

- Enemy likely to reinforce either attack with units of the 7th TA.
- Enemy likely to attack our area with fighter, ground attack, and bomber sorties with up to 70 sorties per day.
- Reduction in enemy combat power, particularly in 71 GMRD and 128 MRD, due to reduced supplies of artillery ammunition, limited personnel replacements, and temporary shortages of other supplies caused by recent combat makes them vulnerable to limited counterattacks.
- Enemy reliance on COMINT makes them vulnerable to deception operations.

INTSUM NUMBER 8 ENDING 190600 AUG

PARA 3 ALPHA: ENEMY FORCES CONTINUED ATTACKS OCCUPYING NIEDERBEISCHEIM (NB3654) AT 0100, FRIELINGEN (NB3734) AT 0200, OBERBEISCHEIM (NB3554) AT 0300, AND WAHLSHAUSEN (NB3433) AT 0400. MOTORIZED ELEMENTS CROSSED THE EFZE RIVER AT GREBENHAGEN (NB3340) BUT WITHDREW EAST OF THE EFZE BY 0300. HEAVY ARTILLERY FIRES CONTINUED ACROSS THE DIVISION FRONT.

PARA 3 BRAVO: FLOT STARTS IN NORTH AT NB3455, RUNS SOUTH ALONG E4 TO VOLKERSHAIN (NB3347), THEN ALONG SECONDARY ROAD TO HAUSEN (NB3232).

PARA 3 FOXTROT: ATTACKS SUPPORTED BY MULTIPLE SORTIES OF MIG-27 FLOGGER D AND SU-25 FROGFOOT. MI-24 HIND HELICOPTER ATTACKS WITH AT-6 SPIRAL AT MISSILES VIC NB3140 AT 0330.

PARA 4 BRAVO: EIGHTEEN ENEMY POWS CAPTURED VIC REMSFELD (NB3350) WERE PHYSICALLY EXHAUSTED FROM 48 HOURS WITHOUT SLEEP.

PARA 4 CHARLIE: NINE MEDIUM TANKS DESTROYED, SIX DAMAGED; THIRTEEN BMP/BRDM DESTROYED, NINE DAMAGED; TWO JET AIRCRAFT SHOT DOWN.

PARA 7 ALPHA: PATROL REPORTS BATTERY 130T GUNS FROM 18 ARTY BN AT NB405522.

PARA 8: SEVERAL T-80 TANKS AND BMPS BEARING MARKINGS OF 223 MRR REPORTED VIC KIRCHHEIM (NB4032) AT 0415 (REPORT RATING B-2).

PARA 11: ENEMY FIRST ECHELON DIVISIONS CAPABLE OF LOCAL ATTACKS AND DEFENSIVE OPERATIONS; SECOND ECHELON DIVISION CAPABLE OF OFFENSIVE OPERATIONS.

PARA 12: PASS THROUGH OF SECOND ECHELON TO CONTINUE ATTACK MOST PROBABLE.

**FINAL INSTRUCTIONS FROM CHIEF OF STAFF**

"At this point, you should have a good overview of the current situation. I've asked each staff officer to leave you a detailed copy of his staff estimates."

"Although the Division Commander has suggested these three broad courses of action, don't feel constrained by that. Feel free to modify, delete, or add to them or to use your initiative to come up with new ones--whatever suits your style and the time constraints."

"I would like you to be prepared to brief me on your analysis of your courses of action, including a recommendation, in \_\_\_\_\_ hours. It isn't necessary to prepare a formal written operations estimate at this time--I'm more interested in hearing your analysis of the courses of action than in the completed estimate."

"We've got a pretty extensive set of references that are available to you and the G-3 Plans Officer will provide you with a list of what we have. If you want other references or data, keep track of what you need. It is unlikely that we can get it, but I'll see what I can do. I've got the rest of the staff working on other assignments for the next few hours, so you're pretty much on your own. I know that having them readily available would be better, but do the best you can under the circumstances."

"I'll be back for your briefing later."

## REFERENCES

|             |                                                            |
|-------------|------------------------------------------------------------|
| FM 100-5    | Operations                                                 |
| FM 100-10   | Combat Service Support                                     |
| FM 101-5    | Staff Organization and Operations                          |
| FM 101-5-1  | Operational Terms and Graphics                             |
| FM 101-10-1 | Staff Officer's Field Manual                               |
| FM 100-2-1  | The Soviet Army: Operations and Tactics                    |
| FM 100-2-2  | The Soviet Army: Specialized Warfare and Rear Area Support |
| FM 100-2-3  | The Soviet Army: Troops, Organization and Equipment        |
| FM 71-100   | Armored and Mechanized Division Operations                 |
| FM 71-2     | The Tank and Mechanized Battalion Task Force               |
| FM 71-3     | Armored and Mechanized Brigade Operations                  |
| FM 17-95    | Cavalry                                                    |
| FM 5-100    | Engineer Combat Operations                                 |
| FM 6-20     | Fire Support in Combined Arms Operations                   |
| FM 41-1     | Army Air Defense Artillery Employment                      |
| FM 3-100    | NBC Operations                                             |
| FM 19-1     | Military Police Support for the AirLand Battle             |
| FM 11-50    | Combat Communications Within the Division                  |
| FM 30-5     | Combat Intelligence                                        |
| ST 100-9    | The Command Estimate (USCGSC Student Text)                 |
| RB 101-999  | Staff Officers' Handbook (USCGSC Student Reference Book)   |

## OTHER REFERENCES

10th Corps Operations Order (160600 Aug)  
10th Corps Frag Order (181500 Aug)  
Preliminary Personnel Estimate (190700 Aug)  
Preliminary Intelligence Estimate (190600 Aug)  
Preliminary Logistics Estimate (190700 Aug)  
Operations Summary of Past 24 Hours  
Blue Force Task Organization  
US Army Weapons Data Card (USCGSC)

# CORPS OPERATIONS ORDER

Copy no 2 of 10 copies  
10th US Corps  
GIESSEN (MB7740), GERMANY  
160600A Aug  
XA 33

Operation Order No 2

Reference: Map, series USACGSC 250-138, sheet 1 (FULDA-KASSEL), 1:250,000

Time Zone Used Throughout the Order: ALPHA

Task Organization: Annex A (omitted)

## 1. SITUATION

a. Enemy Forces. Annex B (Intelligence)(omitted)

b. Friendly Forces.

(1) NATO Forces defend in sector on D-Day with 3d (Ger) Corps, 10th (US) Corps, and 8th (US) Corps from north to south.

(2) 3d (Ger) Corps defends assigned sector in the north on D-Day.

(3) 8th (US) Corps defends assigned sector in south on D-Day.

(4) 10th (US) AF supports 10th (US) Corps.

c. Attachments and Detachments: Annex A (Task Organization)(omitted)

d. Assumptions

(1) Sufficient advance warning will be available for the 10th (US) Corps to move to and occupy defensive positions prior to the outbreak of hostilities.

(2) 10th (US) Corps and attached and supporting units will be combat ready at the outbreak of hostilities.

(3) 3d (Ger) Corps in the north and 8th (US) Corps in the south will be in position and defending sectors at the outbreak of hostilities.

(4) Nuclear, biological, and chemical weapon use by the enemy is possible.

(5) Enemy will have air superiority for the first 24 hours; however, friendly air superiority in key areas may be achieved for limited periods of time.

## 2. MISSION

On order, 10th (US) Corps establishes a limited covering force along the international boundary from NB730519 to NA715849 and defends assigned sector D-Day from NB602539 to NA572638 to prevent significant enemy penetrations into West Germany, to defeat the 10th CAA, 4th TA and 7th TA, and to provide a base for the CENTAG counterattack.

### 3. EXECUTION

#### a. Concept of Operation

##### (1) Maneuver

Corps defends assigned sector. 52d Mech Div in the north defends astride the critical approach from EISENACH (NB9348) through BEBRA (NB5647) and HOMBERG (NB2853) to BORKEN (NB1955). 23d Armd Div in the south defends the critical approach from MEININGEN (NB9903) through FULDA (NB4900) to WETZLAR (NB6502). 312th Sep Mech Bde is corps reserve initially and occupies assembly area A. 201st ACR conducts covering force action from NB644274 to NA715849. 52d Mech Div establishes covering force forward in sector to international boundary and ties in with 201st ACR.

Enemy is expected to exploit the more successful attack along the critical avenues of approach into the corps sector. The enemy will probably attack with a CAA and a TA in the first echelon and one TA in the second echelon. To the maximum extent possible, the corps and division covering forces will slow the enemy's first echelon forces, will inflict maximum casualties through artillery fires and CAS, and will attempt to determine the enemy's main attack. To accomplish this, the covering forces will engage the enemy's first echelon regiments and will disrupt and delay their closure on the MBA.

The two divisions of the corps will fight a deep battle against the follow-on regiments to inflict maximum casualties and to disrupt any attempt to reinforce the front-line regiments until completion of the covering force battle and the hardening of the FEBA. Corps will focus its deep battle assets on the follow-on divisions of the first-echelon armies and the front's second-echelon army to delay its closure.

Priority of commitment of the corps reserve is to reinforcement of the 23d Armd Div and 52d Mech Div in that order, then to defense of corps rear area.

##### (2) Fires

Priority of support initially to the 201st ACR and covering force of 52d Mech Div, then to 23d Armd Div and 52d Mech Div in that order. On order and for short periods, priority will shift to deep attack targets. Target priorities will be enemy nuclear delivery means, troop concentrations, command and control elements of regiments and higher headquarters, and logistical complexes, in that order. Annex D (Fire Support) (omitted)

Priority of air defense coverage to passage of lines, command and control installations of division and higher, key logistical installations, in order. Annex E (Air Defense) (omitted)

##### (3) Other Support

Priority of engineer effort to countermobility in the CFA, to 23d Armd Div and 52d Mech Div in their preparation of defensive positions along FEBA, to positions in depth in MBA, in order. Annex F (Engineer) (omitted)

Priority of intelligence collection efforts during the covering force battle and the MBA battle is to identify the enemy's main attack in the corps sector and to identify and locate follow-on regiments for the deep attack. Priority



of EW spt to 23d Armd Div and 52d Mech Div to augment implementation of respective portions of the corps deception plan before the enemy's attack across the international boundary. Annex G (Electronic Warfare) and Annex H (Deception) (omitted)

b. 52 MECH DIV

(1) Establish covering force from NB730519 to NB644274 along the international boundary.

(2) Conduct defensive covering force operations to delay and destroy the threat's first-echelon regiments; coordinate covering force operations with 201st ACR.

(3) Defend in sector from NB602539 to NB488208 to destroy the first-echelon divisions of the 10th CAA and the 7th TA.

c. 23 AR DIV

(1) Establish contact with corps covering force in sector and coordinate their withdrawal with defense of MBA in sector.

(2) Defend in sector from NB488208 to NA572638 to destroy the first-echelon divisions of the 4th TA and the 7th TA.

d. 201 ACR

(1) Establish covering force from NB644274 to NA715849 along international boundary.

(2) Conduct defensive covering force operations to delay and destroy the threat's first echelon regiments; coordinate covering force operations with 52d Mech Div.

(3) Prepare for OPCON to 23d Armd Div to defend against threat crossover approach into south flank of the division sector.

(4) Prepare for assumption of RACO missions from 313th Sep Mech Bde on order.

e. Fire Support

(1) Air support

(a) General. Priority of air support to 23d Armd Div.

(b) Allocation of CAS for planning.

|    |               |   |             |
|----|---------------|---|-------------|
| 1. | Corps control | - | 40 sorties  |
| 2. | 52d Mech Div  | - | 32 sorties  |
| 3. | 23d Armd Div  | - | 34 sorties  |
| 4. | 201st ACR     | - | 30 sorties  |
|    | Total         | - | 136 sorties |

(c) 10th (US) TAF will retain control of air reconnaissance and BAI sorties. For planning, 10th (US) Corps can expect 10 TAR and 12 BAI missions

during the first 24 hours.

(d) Miscellaneous. Annex D (Fire Support) (omitted)

(2) Chemical. Appendix 1 (Chemical Support) to Annex D (Fire Support) (omitted)

(3) Field Artillery

(a) Priority of fires to the 23d Armd Div.

(b) Organization for combat.

1. 69th FA Bde: GSR to 52d Mech Div.

2d Bn (8, SP), 608th FA

2d Bn (155, SP), 637th FA

2. 70th FA Bde: Attached to 23d Armd Div.

2d Bn (8, SP), 606th FA

2d Bn (8, SP), 607th FA

2d Bn (155, SP), 631st FA (DS 201st ACR covering force)

2d Bn (155, SP), 632d FA (DS 201st ACR covering force)

3. 1st Bn (Lance), 205th FA: GS

(c) Appendix 4 (FA Support) to Annex D (Fire Support) (omitted)

(4) Nuclear Support. Appendix 5 (Nuclear Support) to Annex D (Fire Support) (omitted)

(5) Annex D (Fire Support) (omitted)

f. Air Defense

(1) Protect in priority passage of lines, COSCOM, and corps headquarters.

(2) Annex E (Air Defense) (omitted)

g. 102d Cbt Avn Gp: GS.

(1) Priority to 201st ACR for covering force operations.

(2) After CF operations, priority to 23d Armd Div, 52d Mech Div, 201st ACR (rear area operations), and 313th Sep Mech Bde, in order.

(3) Annex I (Army Aviation) (omitted)

h. 53d Engr Bde: GS

(1) General

(a) Priority of support to 201st ACR initially; then, to 23d Armd Div, 52d Mech Div, 201st ACR (after covering force battle), 313th Sep Mech Bde, and corps rear area, in order.

(b) Priority of engineer missions

1. CFA. Countermobility, mobility, and survivability in order.
2. MBA. Survivability in initial forward defense positions; countermobility in support of forward positions; and preparation and maintenance of river crossing sites, in order.
3. Corps rear area. Establishment and maintenance of LOCs; survivability of communications facilities; and survivability of corps main and forward CPs, in order.

(2) Prepare to attach one Engr Cbt Bn (Corps) to each of frontline divisions.

(3) Be prepared to provide committed divisions and brigades with additional engineer assets as the situation dictates.

(4) Annex F (Engineer) (omitted)

1. 20th MI Gp (CEWI): GS

(1) Annex B (Intelligence) (omitted)

(2) Annex G (Electronic Warfare) (omitted)

j. Reserve

(1) 313th Sep Mech Bde: Priority of missions:

(a) Prepare and occupy reserve assembly area ALPHA.

(b) Conduct rear area combat operations in corps rear area until relieved by 201st ACR. Annex J (Rear Area Combat Operations) (omitted)

(c) Prepare for commitment in sectors of 23d Armd Div and 52d Mech Div, in order, to block and counterattack enemy penetrations.

(2) 201st ACR

(a) After CF battle, prepare and occupy assembly area BLUE.

(b) Assume RACO missions from 313th Sep Mech Bde on order.

(c) Prepare for commitment in 23d Armd Div Sector.

k. Coordinating Instructions

(1) This OPLAN is effective for planning on receipt and for execution on order.

(2) No fires or maneuver across international boundary without approval of this headquarters until hostilities commence.

(3) Annex K (Operations Security) (omitted)

- (4) Annex L (Psychological Operations) (omitted)
- (5) Annex M (Airspace Management) (omitted)
- (6) Troop Safety: Negligible risk to warned, exposed personnel.
- (7) MOPP: Level 2.

#### 4. SERVICE SUPPORT

- a. Annex N (Service Support) (omitted)
- b. Annex O (Civil-Military Operations) (omitted)

#### 5. COMMAND AND SIGNAL

a. Command. Main CP at BURG-GEMUNDEN (NB0215); Tac CP at ALSFELD (NB1922); Corps Cmd Gp initially with Tac CP 23d Armd Div; corps rear CP at GIESSEN (MB7740).

##### b. Signal

- (1) CEOI Index 101 in effect.
- (2) Annex P (Communications-Electronics) (omitted)

# CORPS FRAG ORDER

Copy No 2 of 10 copies  
10th US Corps  
GIESSEN (MB7740), GERMANY  
181500A  
XA 33

## Frag Order

Reference: OPORD 2

Map, series USACGSC 250-138, sheet 1 (FULDA-KASSEL), 1:250,000

Time Zone Used Throughout the Order: ALPHA

Task Organization: Annex A (omitted)

## 1. SITUATION

a. **Enemy Forces.** Enemy forces of the Central Front continue to attack all across the corps front, with 10th CAA on the north, 4th TA in the south, and 7th TA in reserve. 7th TA is sufficiently close to our FEBA to be considered a highly probable reinforcement at a time and place of the enemy's choosing. First echelon divisions of the 10th CAA and 4th TA have been committed since outset of hostilities, and estimates of their personnel and equipment strengths indicate that they are approaching marginal combat effectiveness. Second echelon divisions are in better shape and can provide the extra combat power to sustain the offensive. Indications are that the enemy is attempting to drive on WETZLAR/FRANKFURT in the south while mounting a major attack to cut the KASSEL-FRANKFURT corridor in the north. The 4th Air Army continues to support the Central Front, with air parity continuing to exist. Maximum enemy daily sorties against the corps front has been 125.

### b. Friendly Forces

(1) 3d (Ger) Corps continues to defend in assigned sector on the north.

(2) 8th (US) Corps continues to defend in assigned sector on the south.

(3) 10th (US) AF continues to support 10th (US) Corps.

c. No changes in attachments and detachments to 10th (US) Corps.

### d. Assumptions

(1) Enemy will continue his offensive with a highly probable attempt to penetrate the KASSEL-FRANKFURT corridor along both our corps southern and northern boundaries.

(2) Nuclear, chemical, and biological weapon use by the enemy is possible.

(3) Air parity will continue, but friendly forces can attain air superiority in key areas for limited periods of time.

## **2. MISSION**

10th (US) Corps continues to defend in assigned sector; prevents enemy penetration of corps main battle positions; defeats 10th CAA and 4th TA; and provides base for CENTAG counterattack.

## **3. EXECUTION**

### **a. Concept of Operation**

#### **(1) Maneuver**

Corps defends in assigned sector. To take advantage of enemy inactivity in center of the corps sector, 201st ACR relieves elements of the 23d Ar Div and 52d Mech Div in zone. The enemy is expected to continue his attack with the 10th CAA and the 4th TA and with his main attack in the direction FULDA (NB4900)-WETZLAR (NB6510) in the south; however, we now expect a major secondary attack in the 52d Mech Div sector with the objective of early entry into the KASSEL-FRANKFURT corridor. Command intent is to block strongly the enemy main avenue from FULDA to WETZLAR as well as to prevent an enemy penetration in the north. 23rd Ar Div continues to defend the FULDA-WETZLAR avenue. 52d Mech Div now defends in the north on a narrower front and prevents a roll-up of the corps north flank. 313th Sep Mech Brigade continues in reserve with priority to reinforcement of 23d Ar Div.

(2) Fires: Priority of fire support to 23d Ar Div, 52d Mech Div, and 201st ACR, in order.

#### **b. 52 Mech Div**

(1) Defend in sector along present line of contact from vicinity NIEDERBEISHEIM (NB3654) in the north to KIRCHHEIM (NB4032) in the south; destroy first echelon regiments of 10th CAA; and prevent any breakthrough in sector.

(2) Be prepared to defend corps north flank in event of a breakthrough.

(3) Be prepared for attachment of 313th Sep Mech Bde.

#### **c. 23 Ar Div**

(1) Defend in sector along present line of contact from vicinity SANDLOFS (NB4216) in the north to vicinity NEUHOF (NA4390) in the south; destroy first echelon regiments of 4th TA; and prevent any breakthrough in sector.

(2) Be prepared for attachment of 313th Sep Mech Bde.

#### **d. 201 ACR**

(1) Relieve elements of 23d Ar Div and 52d Mech Div in assigned zone as soon as practicable and NLT 190600 Aug.

(2) Screen sector along present line of contact from vicinity

KIRCHHEIM (NB4032) to vicinity SANDLOPS (NB4216).

(3) Avoid decisive engagement unless ordered by corps.

e. Fire Support

(1) Air Support

(a) Priority of air support to 23d Ar Div, 52d Mech Div, and 201st ACR, in order.

(b) Allocation of CAS for planning.

|                  |   |             |
|------------------|---|-------------|
| 1. Corps control | - | 40 sorties  |
| 2. 23d Ar Div    | - | 48 sorties  |
| 3. 52d Mech Div  | - | 32 sorties  |
| 4. 201st ACR     | - | 16 sorties  |
| Total            | - | 136 sorties |

(2) Field Artillery

(a) Priority of fires to 23d Ar Div, 52d Mech Div, and 201st ACR, in order.

(b) Organization for combat

1. 69th FA Bde: GSR 23d Ar Div.  
2d Bn (8 SP), 608th FA  
2d Bn (155 SP), 634th FA  
2d Bn (155 SP), 637th FA

2. 70th FA Bde:

2d Bn (8 SP), 606th FA: GSR 52d Mech Div  
2d Bn (8 SP), 607th FA: GSR 52d Mech Div  
2d Bn (155 SP), 631st FA: DS 201st ACR  
2d Bn (155 SP), 632d FA: GS 201st ACR

3. 1st Bn (Lance), 205th FA: GS

f. 102d Cbt Avn Gp: GS

(1) Priority of support to 23d Ar Div, 52d Mech Div, and 201st ACR, in order.

g. 52d Engr Bde: GS

(1) Priority of support to 23d Ar Div, 52d Mech Div, and 201st ACR, in order.

(2) Be prepared to attach one Engr Cmbt Bn to 201st ACR.

h. Reserve: 313th Sep Mech Bde

(1) Conduct rear area combat operations in corps rear area.

(2) Be prepared for commitment in zone of 23d Ar Div and 52d Mech Div, in order.

#### 1. Coordinating Instructions

(1) Task organization effective 181800 Aug.

(2) Priority of road movement to 201st ACR for relief of 23d Ar Div and 52d Mech Div units, then to corps reserve upon commitment.

(3) Troop safety: Negligible risk to warned, exposed personnel.

(4) MOPP: Level 2

#### 4. SERVICE SUPPORT

a. Priority of support to 23d Ar Div, 52d Mech Div, and 201st ACR, in order.

b. Unit distribution to divisions and 313th Sep Mech Bde; all others to supply point.

c. Requests for emergency ariel resupply will be submitted to 10th COSCOM MMC through command/operations channels.

d. Maximum cannibalization is authorized to sustain availability of mission-essential equipment.

e. Submit operational immediate personnel requisitions when battalion-sized or larger units fall below 70 percent of authorized strength.

f. Emergency destruction of supplies and/or equipment is authorized to prevent capture (except Class VIII).

#### 5. COMMAND AND SIGNAL

a. Command. Main CP at MB850290; Tac CP at KIRCHAIN (MB953304); corps command group at Tac CP; corps rear CP at HEBORN (MB510145).

b. Signal. CEOI Index 101 remains in effect.



## **PRELIMINARY PERSONNEL ESTIMATE**

### **1. MISSION**

52 Mech Div defends in sector along present line of contact from vicinity HOMBERG (NB2853) in the north to WEISSENBORN (NB3030) in the south; destroys first echelon regiments of enemy 10 CAA; and prevents any breakthrough in sector.

### **2. SITUATION**

#### **a. INTELLIGENCE SITUATION (See Intel Estimate 190600 Aug)**

Adequate road networks exist throughout the division sector for support of personnel operations.

Ample cover and concealment is available in sector for personnel operations.

Weather is favorable for replacement operations. Overcast and rain by 22 Aug will conceal forward movement of replacements as well as evacuation of casualties.

Continuation of the enemy attack, although weakened by two days of continuous battle, can be expected and will generate moderate friendly casualties and will require rapid distribution of replacements.

Reinforcement of the enemy offensive operations by elements of 7 TA will have a major detrimental impact on division strengths.

Enemy capability to employ long-range artillery and air strikes can disrupt and delay replacement operations.

Enemy capability to employ guerrilla forces as well as airmobile units in our rear can severely inhibit personnel operations.

Enemy capability to employ nuclear and chemical weapons could cause mass casualties in frontline as well as rear area units, thus requiring unit versus individual replacements.

#### **b. TACTICAL SITUATION**

For present disposition of major tactical units, see graphics situation 190600 Aug.

Possible courses of action to accomplish the division mission

CA 1- Defend assigned sector with brigades on line weighted to defend against an enemy main attack along the OBERBEISHEIM-HOMBERG-BORKEN (northern) avenue of approach and the reserves located well forward in a position to counterattack an enemy penetration.

CA 2- Defend assigned sector with brigades on line weighted to defend against an enemy main attack along the OBERAULA-NEUKIRCHEN-TREYSA (southern) avenue of approach and the reserves located well forward in a position to counterattack an enemy penetration.

CA 3- Defend assigned sector with two brigades on line balanced to defend against an enemy main attack along either the OBERBEISHEIM-HOMBERG-BORKEN avenue or the OBERAULA-NEUKIRCHEN-TREYSA avenue with the reserve brigade located rearward in a position to block or counterattack an enemy penetration along either avenue of approach.

c. LOGISTIC SITUATION

For present dispositions of logistic units and installations that have an effect on the personnel situation, see Admin/Logistics Overlay 2 (omitted).

There are no projected developments within the logistic field likely to influence personnel operations.

d. CIVIL-MILITARY OPERATIONS SITUATION

For present dispositions of civil affairs units that have an effect on personnel operations, see Civil-Military Operations Overlay 2 (omitted).

The refugee control and evacuation problem is acute and may require the attachment of a Psyop Bn as well as CA Bn for assistance in these functions. The overriding civil-military operation consideration is the protection and control of the populace to prevent civilian interference with military operations.

e. TROOP PREPAREDNESS SITUATION

(1) Unit strength

See unit strength report 190600 Aug (ANNEX A).

See losses and gains report 190600 Aug (ANNEX B).

Major MOS shortages exist for infantry and tank platoon leaders, infantry NCOs, and tank crewmen. Projections for individual replacements are estimated at 10 officers and 120 enlisted personnel per day.

Estimated division losses for the next 3 days are as follows:

|        | CA 1 | CA 2 | CA 3 |
|--------|------|------|------|
| 19 Aug | 1022 | 940  | 990  |
| 20 Aug | 906  | 833  | 866  |
| 21 Aug | 784  | 728  | 758  |
| TOTALS | 2712 | 2501 | 2614 |

(2) Other personnel

See other personnel report 190600 Aug (ANNEX C).

(3) Soldier personal readiness

Minor problems in administrative services will not impact mission performance.

Support services are adequate although use of laundry and bath services is low due to current heavy fighting.

(4) Human potential

Few newly assigned personnel have previous combat experience.

(5) Commitment

Morale and discipline are high; however, personnel of the 1st and 2d Brigades are fatigued from more than two days of continuous combat.

f. ASSUMPTIONS

Replacements will be at the rate of 130 per day, and the quality of replacements will be good.

Expected daily loss rate will not exceed 6 percent.

3. ANALYSIS

a. UNIT STRENGTH

Courses of action 1 and 2 would use all brigades on line while CA 3 would use two brigades on line; however, the severity of casualties would vary from CA 1 as the most serious to CA 3 and CA 2 as the least serious. Expected division strengths by 211800 Aug for each course of action are as follows:

| CA 1<br>(North Flank) | CA 2<br>(South Flank) | CA 3<br>(Balanced) |
|-----------------------|-----------------------|--------------------|
| 14615 (74%)           | 14826 (75%)           | 14713 (74.5%)      |

The mechanized infantry battalion task forces are expected to suffer the largest proportion of division losses under all courses of action, and by 211800 Aug will have become marginally combat effective.

Both infantry and armor replacements are urgently required. The projected replacement rate will not meet requirements.

b. OTHER PERSONNEL

PW capture rate is expected to be low and will have a minimum impact on the selection of a course of action.

c. SOLDIER PERSONAL READINESS

Battalion aid stations and division clearing stations have been operating at near capacity since the fighting began on 17 Aug. Both air and ground medical evacuation have been performed efficiently, and no problems in this area are anticipated.

Support services are adequate to support all courses of action.

#### d. COMMITMENT

All courses of action require decisive combat with threat forces. This fact, coupled with perceived reduction in battle intensity by Soviet frontline motorized rifle regiments, should act to sustain morale of 52 Mech Div.

Leadership within the division has been of high quality as indicated by attitude, motivation, appearance, and battle discipline of our troops.

#### 4. COMPARISON OF COURSES OF ACTION

The dominant personnel factors are strengths, replacements, and evacuation and hospitalization. All courses of action will influence personnel readiness and morale approximately equally.

##### a. UNIT STRENGTHS

CA 1 will have the greatest impact on the strength of divisional combat units since the division will be fighting with most of the battalion task forces engaged in decisive combat on a narrow front. This will lead to a higher rate of casualties. CA 1 also poses the greatest threat to personnel operations and to the division LOC.

Losses under all courses of action should reduce the division strength to the point that continuation of effective combat will be difficult. In all courses of action, 52d Mech Div will require significant numbers of trained replacements, particularly infantry replacements, to sustain combat operations.

Strengths favor courses of action 3, then 2, then CA 1, in that order.

##### b. SOLDIER PERSONAL READINESS

CA 1 and CA 2 will require more rearward placement of division clearing stations thus extending medevac capabilities. The least impact on evacuation and hospitalization is associated with CA 3.

#### 5. CONCLUSIONS

The mission can be supported from a personnel standpoint; however, after three more days of fighting the division strength will be close to 75 percent, and significant replacements will be required in order to sustain combat operations.

Course of action 3 can best be supported from a personnel standpoint.

Available replacements should be distributed with minimum delay to those battalion task forces at marginal combat strength, and the corps commander should be informed of the urgent need for infantry and armor replacements.

# ANNEX A: PERSONNEL STRENGTH REPORT

190600 AUG

| UNIT NAME     | TOE |     |     |       | CURRENT |     |     |       |
|---------------|-----|-----|-----|-------|---------|-----|-----|-------|
|               | OFF | NCO | EM  | TOTAL | OFF     | NCO | EM  | TOTAL |
| 201 AC REGT   | 0   | 0   | 0   | 0     | 0       | 0   | 0   | 0     |
| HHC 52 DIV    | 66  | 0   | 127 | 193   | 59      | 0   | 99  | 158   |
| HHC 1 BDE     | 23  | 0   | 97  | 120   | 14      | 0   | 73  | 87    |
| HHC 2 BDE     | 23  | 0   | 97  | 120   | 20      | 0   | 81  | 101   |
| HHC 3 BDE     | 23  | 0   | 97  | 120   | 22      | 0   | 94  | 116   |
| 52 CML CO     | 4   | 0   | 107 | 111   | 4       | 0   | 98  | 102   |
| 52 MP CO      | 9   | 0   | 197 | 206   | 9       | 0   | 185 | 194   |
| 52 MI BN      | 68  | 0   | 543 | 611   | 65      | 0   | 521 | 586   |
| 52 SIG BN     | 30  | 0   | 757 | 787   | 28      | 0   | 652 | 680   |
| HHC DISCOM    | 22  | 0   | 58  | 80    | 21      | 0   | 52  | 73    |
| 52 MED BN     | 56  | 0   | 352 | 408   | 49      | 0   | 321 | 370   |
| 52 S & T BN   | 22  | 0   | 435 | 457   | 18      | 0   | 387 | 405   |
| 52 MAINT BN   | 63  | 400 | 960 | 1423  | 58      | 400 | 793 | 1251  |
| 52 AG CO      | 18  | 0   | 277 | 295   | 18      | 0   | 272 | 290   |
| 52 FIN CO     | 6   | 0   | 85  | 91    | 6       | 0   | 82  | 88    |
| 52 DMHC       | 27  | 0   | 131 | 158   | 25      | 0   | 125 | 150   |
| HHC DIVARTY   | 45  | 0   | 179 | 224   | 42      | 0   | 171 | 213   |
| 1-40 FA BN    | 40  | 0   | 552 | 592   | 37      | 0   | 448 | 485   |
| 1-41 FA BN    | 40  | 0   | 552 | 592   | 35      | 0   | 468 | 503   |
| 1-42 FA BN    | 40  | 0   | 552 | 592   | 40      | 0   | 539 | 579   |
| 1-43 FA BN    | 35  | 0   | 497 | 532   | 34      | 0   | 468 | 502   |
| 52 TA BTRY    | 12  | 0   | 150 | 162   | 12      | 0   | 144 | 156   |
| HHC/52 ENGR   | 18  | 0   | 142 | 160   | 16      | 0   | 135 | 151   |
| A/52 ENGR     | 5   | 0   | 157 | 162   | 3       | 0   | 120 | 123   |
| B/52 ENGR     | 5   | 0   | 157 | 162   | 4       | 0   | 113 | 117   |
| C/52 ENGR     | 5   | 0   | 157 | 162   | 5       | 0   | 141 | 146   |
| D/52 ENGR     | 5   | 0   | 157 | 162   | 5       | 0   | 147 | 152   |
| E/52 ENGR     | 5   | 0   | 148 | 153   | 5       | 0   | 142 | 147   |
| 1-441 ADA BN  | 0   | 0   | 0   | 0     | 0       | 0   | 0   | 0     |
| HBT/1-441 ADA | 23  | 0   | 152 | 175   | 22      | 0   | 143 | 165   |
| A/1-441 ADA   | 7   | 0   | 154 | 161   | 6       | 0   | 115 | 121   |
| B/1-441 ADA   | 7   | 0   | 154 | 161   | 5       | 0   | 118 | 124   |
| C/1-441 ADA   | 7   | 0   | 164 | 171   | 7       | 0   | 143 | 150   |
| D/1-441 ADA   | 7   | 0   | 164 | 171   | 6       | 0   | 143 | 149   |
| 52 AVN BN     | 0   | 0   | 0   | 0     | 0       | 0   | 0   | 0     |
| HHC/52 AVN    | 16  | 0   | 88  | 104   | 16      | 0   | 84  | 100   |
| A/52 AVN      | 64  | 0   | 162 | 226   | 63      | 0   | 138 | 201   |
| B/52 AVN      | 51  | 0   | 105 | 156   | 49      | 0   | 85  | 144   |
| C/52 AVN      | 63  | 0   | 181 | 244   | 53      | 0   | 128 | 181   |
| D/52 AVN      | 63  | 0   | 181 | 244   | 57      | 0   | 123 | 180   |
| E/52 AVN      | 18  | 0   | 238 | 257   | 16      | 0   | 228 | 244   |
| TF 1-23 CAV   | 0   | 0   | 0   | 0     | 0       | 0   | 0   | 0     |
| HBT/1-23 CAV  | 18  | 0   | 186 | 214   | 14      | 0   | 181 | 195   |
| A/1-23 CAV    | 5   | 0   | 158 | 163   | 4       | 0   | 87  | 91    |
| B/1-23 CAV    | 5   | 0   | 158 | 163   | 2       | 0   | 87  | 89    |
| C/1-23 CAV    | 5   | 0   | 158 | 163   | 3       | 0   | 101 | 104   |
| D/1-23 CAV    | 47  | 0   | 152 | 199   | 26      | 0   | 83  | 119   |
| TF 1-77 IN    | 40  | 0   | 727 | 767   | 31      | 0   | 584 | 595   |
| TF 1-78 IN    | 40  | 0   | 727 | 767   | 34      | 0   | 589 | 623   |

|               |    |   |     |     |    |   |     |     |
|---------------|----|---|-----|-----|----|---|-----|-----|
| TF 1-78 IN    | 43 | 0 | 836 | 678 | 29 | 0 | 615 | 644 |
| TF 1-80 IN    | 40 | 0 | 727 | 757 | 33 | 0 | 606 | 641 |
| TF 1-81 IN    | 43 | 0 | 804 | 849 | 36 | 0 | 625 | 661 |
| TF 1-82 IN    | 40 | 0 | 727 | 757 | 36 | 0 | 661 | 697 |
| TF 1-2 AR     | 38 | 0 | 594 | 613 | 30 | 0 | 439 | 469 |
| TF 1-3 AR     | 39 | 0 | 594 | 633 | 28 | 0 | 403 | 429 |
| TF 1-4 AR     | 34 | 0 | 517 | 551 | 28 | 0 | 430 | 458 |
| TF 1-5 AR     | 39 | 0 | 594 | 633 | 35 | 0 | 524 | 558 |
| TF 1-25 AR    | 39 | 0 | 594 | 633 | 28 | 0 | 475 | 504 |
| 23 AR DIV     | 0  | 0 | 0   | 0   | 0  | 0 | 0   | 0   |
| 28 PANZER DIV | 0  | 0 | 0   | 0   | 0  | 0 | 0   | 0   |
| 10 US CORPS   | 0  | 0 | 0   | 0   | 0  | 0 | 0   | 0   |
| 52 INGR BN    | 0  | 0 | 0   | 0   | 0  | 0 | 0   | 0   |

# ANNEX B: LOSSES AND GAINS

190600 AUG

| UNIT    | LOSSES |     |       | GAINS |     |       | NET |      |       |
|---------|--------|-----|-------|-------|-----|-------|-----|------|-------|
|         | OFF    | ENL | TOTAL | OFF   | ENL | TOTAL | OFF | ENL  | TOTAL |
| 1ST BDE | 19     | 398 | 417   | 16    | 202 | 218   | -3  | -185 | -189  |
| 2D BDE  | 13     | 212 | 225   | 4     | 27  | 31    | -9  | -185 | -194  |
| 3D BDE  | 3      | 39  | 42    | 0     | 0   | 0     | -3  | -39  | -42   |
| DIVARTY | 7      | 88  | 95    | 2     | 18  | 20    | -5  | -70  | -75   |
| DISCOM  | 5      | 88  | 93    | 1     | 11  | 12    | -4  | -77  | -81   |
| DIVTRPS | 7      | 124 | 131   | 2     | 22  | 24    | -5  | -102 | -107  |
| 52 DIV  | 34     | 949 | 1003  | 23    | 280 | 303   | -29 | -669 | -698  |

## 1ST BRIGADE

| UNIT        | LOSSES |     |       | GAINS |     |       | NET |      |       |
|-------------|--------|-----|-------|-------|-----|-------|-----|------|-------|
|             | OFF    | ENL | TOTAL | OFF   | ENL | TOTAL | OFF | ENL  | TOTAL |
| BHC-1       | 1      | 2   | 3     | 0     | 0   | 0     | -1  | -2   | -3    |
| TF 1-77 IN  | 4      | 47  | 51    | 2     | 18  | 20    | -2  | -29  | -31   |
| TF 1-78 IN  | 3      | 54  | 57    | 11    | 169 | 180   | +8  | +115 | +123  |
| TF 1-2 AR   | 5      | 202 | 207   | 1     | 11  | 12    | -4  | -191 | -195  |
| TF 1-25 AR  | 4      | 30  | 34    | 2     | 4   | 6     | -2  | -26  | -28   |
| TF 1-23 CAV | 2      | 63  | 65    | 0     | 0   | 0     | -2  | -63  | -65   |
| 1ST BRIGADE | 19     | 398 | 417   | 16    | 202 | 218   | -3  | -185 | -189  |

## 2D BRIGADE

| UNIT       | LOSSES |     |       | GAINS |     |       | NET |      |       |
|------------|--------|-----|-------|-------|-----|-------|-----|------|-------|
|            | OFF    | ENL | TOTAL | OFF   | ENL | TOTAL | OFF | ENL  | TOTAL |
| BHC-2      | 1      | 5   | 6     | 0     | 0   | 0     | -1  | -5   | -6    |
| TF 1-79 IN | 2      | 41  | 43    | 1     | 8   | 9     | -1  | -33  | -34   |
| TF 1-80 IN | 3      | 25  | 28    | 0     | 0   | 0     | -3  | -25  | -28   |
| TF 1-81 IN | 2      | 75  | 77    | 1     | 12  | 13    | -1  | -63  | -64   |
| TF 1-3 AR  | 3      | 45  | 48    | 2     | 7   | 9     | -1  | -38  | -39   |
| TF 1-4 AR  | 2      | 21  | 23    | 0     | 0   | 0     | -2  | -21  | -23   |
| 2D BRIGADE | 13     | 212 | 225   | 4     | 27  | 31    | -9  | -185 | -194  |

## 3D BRIGADE

| UNIT       | LOSSES |     |       | GAINS |     |       | NET |     |       |
|------------|--------|-----|-------|-------|-----|-------|-----|-----|-------|
|            | OFF    | ENL | TOTAL | OFF   | ENL | TOTAL | OFF | ENL | TOTAL |
| BHC-3      | 0      | 1   | 1     | 0     | 0   | 0     | 0   | -1  | -1    |
| TF 1-82 IN | 1      | 10  | 11    | 0     | 0   | 0     | -1  | -10 | -11   |
| TF 1-5 AR  | 2      | 28  | 30    | 0     | 0   | 0     | -2  | -28 | -30   |
| 3D BRIGADE | 3      | 39  | 42    | 0     | 0   | 0     | -3  | -39 | -42   |

# 52 DIVARTY

| UNIT        | LOSSES |     |       | GAINS |     |       | NET |     |       |
|-------------|--------|-----|-------|-------|-----|-------|-----|-----|-------|
|             | OFF    | ENL | TOTAL | OFF   | ENL | TOTAL | OFF | ENL | TOTAL |
| HQB DIVARTY | 1      | 3   | 4     | 0     | 0   | 0     | -1  | -3  | -4    |
| 52 TA BTRY  | 0      | 1   | 1     | 0     | 0   | 0     | 0   | -1  | -1    |
| 1-40 FA BN  | 2      | 41  | 43    | 1     | 11  | 12    | -1  | -30 | -31   |
| 1-41 FA BN  | 4      | 32  | 36    | 1     | 7   | 8     | -3  | -25 | -28   |
| 1-42 FA BN  | 0      | 4   | 4     | 0     | 0   | 0     | 0   | -4  | -4    |
| 1-43 FA BN  | 0      | 7   | 7     | 0     | 0   | 0     | 0   | -7  | -7    |
| DIVARTY     | 7      | 88  | 95    | 2     | 18  | 20    | -5  | -70 | -75   |

# 52 DISCOM

| UNIT        | LOSSES |     |       | GAINS |     |       | NET |     |       |
|-------------|--------|-----|-------|-------|-----|-------|-----|-----|-------|
|             | OFF    | ENL | TOTAL | OFF   | ENL | TOTAL | OFF | ENL | TOTAL |
| HQB DISCOM  | 1      | 3   | 4     | 0     | 0   | 0     | -1  | -3  | -4    |
| 52 MED BN   | 2      | 12  | 14    | 1     | 3   | 4     | -1  | -9  | -10   |
| 52 MAINT BN | 0      | 80  | 80    | 0     | 8   | 8     | 0   | -54 | -54   |
| 52 S&T BN   | 1      | 8   | 9     | 0     | 2   | 2     | -1  | -6  | -7    |
| 52 AG CO    | 0      | 3   | 3     | 0     | 0   | 0     | 0   | -3  | -3    |
| 52 FIN CO   | 0      | 1   | 1     | 0     | 0   | 0     | 0   | -1  | -1    |
| 52 ENMC     | 1      | 1   | 2     | 0     | 0   | 0     | -1  | -1  | -2    |
| DISCOM      | 5      | 88  | 93    | 1     | 11  | 12    | -4  | -77 | -81   |

# 52 DIVTRPS

| UNIT         | LOSSES |     |       | GAINS |     |       | NET |      |       |
|--------------|--------|-----|-------|-------|-----|-------|-----|------|-------|
|              | OFF    | ENL | TOTAL | OFF   | ENL | TOTAL | OFF | ENL  | TOTAL |
| HQB 52 DIV   | 1      | 6   | 7     | 0     | 2   | 2     | -1  | -4   | -5    |
| 52 ENGR BN   | 0      | 27  | 27    | 0     | 6   | 6     | 0   | -21  | -21   |
| 1-441 ADA BN | 0      | 30  | 30    | 0     | 3   | 3     | 0   | -27  | -27   |
| 52 AVN BN    | 6      | 29  | 35    | 2     | 5   | 7     | -4  | -24  | -28   |
| 52 MI BN     | 0      | 3   | 3     | 0     | 0   | 0     | 0   | -3   | -3    |
| 52 SIG BN    | 0      | 25  | 25    | 0     | 6   | 6     | 0   | -19  | -19   |
| 52 CHL CO    | 0      | 4   | 4     | 0     | 0   | 0     | 0   | -4   | -4    |
| 52 MP CO     | 0      | 0   | 0     | 0     | 0   | 0     | 0   | 0    | 0     |
| DIVTRPS      | 7      | 124 | 131   | 2     | 22  | 24    | -5  | -102 | -107  |



# ANNEX C: OTHER PERSONNEL

190600 AUG

| UNIT       | RATE | PRISONERS OF WAR |             |            |                   | RATE | INTERNEES/DETAINÉES |             |            |                   |
|------------|------|------------------|-------------|------------|-------------------|------|---------------------|-------------|------------|-------------------|
|            |      | GUARD<br>CAP     | EVAC<br>CAP | ON<br>HAND | MISSION<br>IMPACT |      | GUARD<br>CAP        | EVAC<br>CAP | ON<br>HAND | MISSION<br>IMPACT |
| 1ST BDE    | 22   | 100              | 100         | 12         | 1                 | 3    | 100                 | 100         | 0          | 3                 |
| 2D BDE     | 15   | 100              | 100         | 15         | 1                 | 3    | 100                 | 100         | 0          | 0                 |
| 3D BDE     | 2    | 100              | 100         | 0          | 0                 | 3    | 100                 | 100         | 3          | 3                 |
| 52 MP CO   | 0    | 200              | 200         | 12         | 0                 | 0    | 200                 | 200         | 0          | 0                 |
| 52 DIV HEC | 30   | 200              | 200         | 30         | 0                 | 0    | 200                 | 200         | 0          | 0                 |

## MISSION IMPACT

0 - NONE

1 - SLIGHT

2 - MODERATE

3 - SIGNIFICANT

DIVISION EVACUATION CAPABILITY REPRESENTED BY 52 MP CO.

## 1ST BRIGADE

| UNIT        | RATE | PRISONERS OF WAR |             |            |                   | RATE | INTERNEES/DETAINÉES |             |            |                   |
|-------------|------|------------------|-------------|------------|-------------------|------|---------------------|-------------|------------|-------------------|
|             |      | GUARD<br>CAP     | EVAC<br>CAP | ON<br>HAND | MISSION<br>IMPACT |      | GUARD<br>CAP        | EVAC<br>CAP | ON<br>HAND | MISSION<br>IMPACT |
| HEC-1       | 0    | 100              | 100         | 9          | 0                 | 0    | 0                   | 0           | 0          | 0                 |
| TF 1-78 IN  | 4    | 0                | 0           | 0          | 0                 | 0    | 0                   | 0           | 0          | 0                 |
| TF 1-78 IN  | 3    | 0                | 0           | 0          | 0                 | 0    | 0                   | 0           | 0          | 0                 |
| TF 1-2 AR   | 11   | 0                | 0           | 3          | 1                 | 0    | 0                   | 0           | 0          | 0                 |
| TF 1-23 AR  | 4    | 0                | 0           | 0          | 0                 | 0    | 0                   | 0           | 0          | 0                 |
| TF 1-23 CAV | 0    | 0                | 0           | 0          | 0                 | 0    | 0                   | 0           | 0          | 0                 |
| 1ST BRIGADE | 22   | 100              | 100         | 12         | 1                 | 0    | 100                 | 100         | 0          | 3                 |

## 2D BRIGADE

| UNIT       | RATE | PRISONERS OF WAR |             |            |                   | RATE | INTERNEES/DETAINÉES |             |            |                   |
|------------|------|------------------|-------------|------------|-------------------|------|---------------------|-------------|------------|-------------------|
|            |      | GUARD<br>CAP     | EVAC<br>CAP | ON<br>HAND | MISSION<br>IMPACT |      | GUARD<br>CAP        | EVAC<br>CAP | ON<br>HAND | MISSION<br>IMPACT |
| HEC-2      | 0    | 100              | 100         | 7          | 0                 | 0    | 100                 | 100         | 0          | 0                 |
| TF 1-78 IN | 0    | 0                | 0           | 0          | 0                 | 0    | 0                   | 0           | 0          | 0                 |
| TF 1-80 IN | 0    | 0                | 0           | 0          | 0                 | 0    | 0                   | 0           | 0          | 0                 |
| TF 1-81 IN | 0    | 0                | 0           | 0          | 0                 | 0    | 0                   | 0           | 0          | 0                 |
| TF 1-3 AR  | 4    | 0                | 0           | 4          | 0                 | 0    | 0                   | 0           | 0          | 0                 |
| TF 1-4 AR  | 11   | 0                | 0           | 4          | 1                 | 0    | 0                   | 0           | 0          | 0                 |
| 2D BRIGADE | 15   | 100              | 100         | 15         | 1                 | 0    | 100                 | 100         | 0          | 0                 |

3D BRIGADE

PRISONERS OF WAR

INTERDEES/DETAINEES

| UNIT       | RATE | GUARD<br>CAP | EVAC<br>CAP | ON<br>BOARD | MISSION<br>IMPACT | RATE | GUARD<br>CAP | EVAC<br>CAP | ON<br>BOARD | MISSION<br>IMPACT |
|------------|------|--------------|-------------|-------------|-------------------|------|--------------|-------------|-------------|-------------------|
| SEC-3      | 0    | 100          | 100         | 0           | 0                 | 0    | 100          | 100         | 0           | 0                 |
| TF 1-82 IN | 2    | 0            | 0           | 0           | 0                 | 0    | 0            | 0           | 0           | 0                 |
| TF 1-5 AR  | 0    | 0            | 0           | 0           | 0                 | 0    | 0            | 0           | 0           | 0                 |
| 3D BRIGADE | 2    | 100          | 100         | 0           | 0                 | 0    | 100          | 100         | 0           | 0                 |

# PRELIMINARY INTELLIGENCE ESTIMATE

190600 Aug

## 1. MISSION

52d Mech Div defends in sector along present line of contact from vicinity HOMBERG (NB2853) in the north to WEISSENBORN (NB3030) in the south; destroys first echelon regiments of enemy 10 CAA; and prevents any breakthrough in sector.

## 2. AREA OF OPERATIONS

### a. Weather

#### (1) SITUATION

See weather report and forecast 181800 Aug (ANNEX A).

#### (2) EFFECT ON ENEMY COURSES OF ACTION

Cross-country movement is expected to remain unhampered for next 72 hours.

Increasing cloud cover will lower visibility to 1.5 KM by 211200 Aug with .5 KM visibility and rain expected by 221200 Aug.

Wind direction will gradually shift from north to west over next 96 hours, hampering enemy smoke operations or use of NBC Weapons.

Increasing cloudiness and humidity over next 72 hours should decrease enemy ECM effectiveness and hamper his nap-of-the-earth air operations.

Weather conditions should be favorable for enemy high speed offensive operations for only the next 24-36 hours; within 96 hours expected moderate-to-heavy rains should slow offensive operations significantly.

Weather favors a shift in enemy tactics from rapid offense to at least a brief period of reduced movement by 22 Aug.

#### (3) EFFECT ON OWN COURSES OF ACTION

Cross-country movement should remain unhampered for next 72 hours.

Visibility will gradually decrease over next 96 hours to .5 KM by 22 Aug decreasing range at which enemy armor can be engaged but decreasing ability of enemy forward observers to detect our movements. Night visibility should drop to near zero by 21/22 Aug, bringing night operations to a near standstill.

Wind direction will gradually shift from north to west over next 96 hours, favoring our use of smoke or nuclear-chemical weapons if required.

Increasing humidity will lessen enemy ECM effectiveness and low cloud cover should bring low level air operations on both sides to a near standstill by

midday 21 Aug.

Our delay operations are slightly favored over enemy offensive operations by wind direction and visibility over next 72 hours, but rain on 22 Aug will hamper both.

A defense in position is counterindicated by weather conditions until 22 Aug when rain should greatly reduce mobility.

Weather favors friendly counterattacks of limited depth on 20 and 21 Aug when lower visibility, favorable winds, and good mobility should prevail.

b. TERRAIN (See Terrain Analysis Overlay)

(1) SITUATION

Observation and fire

On the north flank around HOMBERG terrain is relatively open with fields of fire out to 2 KM in places. East of Autobahn E4 terrain closes with steeper grades and more timber. West of HOMBERG terrain is quite open with observation up to 7 KM between HOMBERG and BORKEN (NB1955).

In the central sector between REMSFELD (NB3350) and GREBENHAGEN (NB3340) there are steep hills and heavy forests. The EFZE River cuts a deep canyon between the two forces, but higher elevations on the east side favor the enemy. West of the EFZE the terrain opens somewhat, but observation and fire are still severely restricted until around FRIELENDORF (NB2247) where the ground levels out and is about 50% forested.

On the south flank from SCHWARZENBORN (NB3140) to HAUSEN (NB3232) there are several larger open areas but the slopes are steep. West of SEIGERTSHAUSEN (NB2540) and NEUKIRCHEN (NB2435) the ground opens up before TREYSA (NB1340) allowing observation out to 10 KM in places.

Cover and concealment

On the north flank around HOMBERG there are several villages, HOMBERG itself, and small forested areas to provide cover and concealment. Hills provide concealment from direct observation but generally are not steep enough to provide cover from indirect fire. East of Autobahn E4 both cover and concealment improve. West of HOMBERG the flat open ground provides little cover or concealment except for the forest south of FREUDENTHAL (NB2352).

In the central sector between REMSFELD and GREBENHAGEN cover and concealment are plentiful. It is slightly better on the enemy side of the EFZE but steep hills and about 70% forest cover continue for some 8 KM west of the EFZE River. After that available cover/concealment is reduced by probably 50% until the SCHWALM River, some 20 KM to the rear of the current FEBA.

On south flank from SCHWARZENBORN to HAUSEN the hills are still steep, but there are more open areas with less cover/concealment than in the central sector. These conditions prevail 10 KM either side of the current FEBA

but west of NEUKIRCHEN is a broad open plain some 10 X 8 KM in size with villages providing the only concealment.

#### Obstacles

On the north flank several steep grades channel armor into a 2 KM wide area just east of HOMBERG. West of HOMBERG the EFZE has steep banks channeling armor thru MUHLHAUSEN (NB2655) and CASSDORF (NB2552) with one narrow ford between these two. South of CASSDORF the river is fordable at almost any point. Between the EFZE and BORKEN, few natural obstacles exist and open land continues some 30 KM north.

In the central sector between REMSFELD and GREBENHAGEN steep grades channel armor onto existing roads and a few narrow canyons. Some 2 KM west of the EFZE River the terrain opens somewhat but armor is still channeled into valleys no more than 1 KM wide. West of FRIELENDORF maneuver areas up to 2 KM wide exist. There are no water barriers in this area between the EFZE and the SCHWALM, some 20 KM distance.

On the south flank from SCHWARZENBORN to HAUSEN it is like the central sector--more cleared areas but grades remain steep, channeling armor into narrow valleys. West of NEUKIRCHEN the land is open for some 11 KM to TREYSA. Villages are about 2 KM apart in this area and the SCHWALM and ANTREFF Rivers provide minor water barriers, otherwise few natural obstacles exist.

#### Key terrain features

On the north flank the city of HOMBERG is key terrain blocking enemy access to open country to the west. High ground west of REMSFELD (NB3150) controls EFZE River valley corridor. OBERBEISHEIM (NB3554)-NIEDERBEISHEIM (NB3654) villages and WICHTERHOHE Pass (NB3953) control our access to enemy north flank.

In the central area, from REMSFELD to GREBENHAGEN the villages of SCHELLBACH (NB3149), HULSA (NB3244), and HERGETSFELD (NB3243) would be primary enemy penetration points. In our rear, city of FRIELENDORF is a major feature on the north-south LOC.

On the south flank from SCHWARZENBORN to HAUSEN the villages of RICHBERG/LAGER SCHWARZENBORN (NB2938) and pass at OLBERODE (NB2934) would be primary enemy penetration points. The villages of SEIGERTSHAUSEN and NEUKIRCHEN are key access points into open area in our rear, and the city of TREYSA is the key feature on the LOC in our rear.

#### Avenues of approach

On the north flank, NIEDERBEISHEIM-HOMBERG-BORKEN is a primary corridor. The EFZE River valley from REMSFELD northeast provides a secondary corridor into HOMBERG. Primary flanking corridors into the open ground west of HOMBERG are MOSHEIM (NB3360)-MARDORF (NB2855) from the north and SCHELLBACH-WASSMUTHSHAUSEN (NB2949)-LUTZELWIG (NB2651) in the south.

In the central sector from REMSFELD to GREBENHAGEN, only narrow avenues exist. Enemy penetration into the north-south corridor between

WASSMUTHSHAUSEN and HERGETSFELD would open up 3 narrow corridors for him into the FRIELENDORF area.

On the south flank, KIRCHEIM (NB4032)-OBERAULA (NB3334)-NEUKIRCHEN is the primary avenue in 52 MID sector into TREYSA. SCHWARZENBORN-SEIGERTSHAUSEN is a minor corridor but enemy movement SW from SCHWARZENBORN could threaten NEUKIRCHEN from the north. Primary flanking corridors into the TREYSA area are HOMBERG-FRIELENDORF from the north and ALSFELD (NB1922)-SCHRECKSBACH (NB2031) from the south.

## (2) EFFECT ON ENEMY COURSES OF ACTION

Terrains favors enemy attack in north around HOMBERG and in south thru OBERAULA or SW thru SCHWARZENBORN. Enemy may also attempt to flank 52 MID along high speed avenue in the south from ALSFELD into TREYSA.

Enemy is currently holding excellent defensive terrain from REMSFELD south to our southern boundary. His positions west of Autobahn E4 before HOMBERG are not good defensive positions, but a withdrawal to east of AUTOBAHN E4 would provide excellent defensive terrain in the north also.

## (3) EFFECT ON FRIENDLY COURSES OF ACTION

In the north around HOMBERG delay would be most difficult as withdrawal west of HOMBERG would place friendly troops in exposed positions.

In the central sector from REMSFELD to GREBENHAGEN good delaying terrain exists from 6-8 KM to the rear of current positions.

In the south between SCHWARZENBORN and HAUSEN good to fair delaying terrain exists for about 8 KM to the rear of current positions.

Defense in position is most favorable from SCHWARZENBORN south as we have a general elevation advantage and enemy must cross open terrain to attack.

In central sector, enemy generally has the elevation advantage although it is slight and not consistent along the front.

In the north around HOMBERG the city itself and the high ground we hold to the NE and SE favor a defense in position, but enemy has relatively good maneuver terrain and defendable terrain is shallow.

Only the terrain east of HOMBERG is favorable for a large-scale mounted counterattack and then only to a depth of some 5-6 KM. Nighttime infiltrations by dismounted units to seize key terrain best fits the terrain from REMSFELD south.

### c. Other characteristics- REFUGEES

#### (1) SITUATION

The precipitous occurrence of events meant that most of the populace were unevacuated when the war began and many have been reluctant to leave until enemy shelling hits their area. This has caused refugee problems beyond the

capability of military and local civilian authorities to handle. Major LOCs have been kept open but secondary roads are often clogged.

## (2) EFFECT ON ENEMY COURSES OF ACTION

Enemy advances have often overtaken groups of civilians, especially during rapid advances yesterday, thus, the enemy has been hampered by the refugee problem as we have. Enemy has also taken advantage of the problem by infiltrating groups of special forces with the refugees. One reliable source says that at least 20 teams of from 2-5 men/women saboteurs and assassins from the Central Front Spetsnaz Brigade have thus infiltrated 52 MID lines in the past 48 hours; others from KGB and other Spetsnaz groups may have done likewise.

## (3) EFFECT ON FRIENDLY COURSES OF ACTION

Civilian traffic on secondary roads has occasionally hampered the rearward movement of combat troops but the primary effect has been on resupply of forward units. Increased involvement by civilian authorities seems to be easing the problem.

### 3. ENEMY SITUATION

#### a. DISPOSITIONS

Shortening of 52 MID lines means that we are now facing only units from the 10 CAA. Three divisions have been identified as composing the 10 CAA: 71 GMRD is committed on our left, 128 MRD is committed on our right, and 9 GTD has apparently crossed the FULDA last night and all indications are that it is positioned generally along the FRIEDLOS (NB5239)-STERKELHAUSEN (NB4551) Highway some 12 KM to the rear. An additional tank army, tentatively identified as the 7 TA, is moving up to in the rear of 10 CAA; its vanguard is now west of EISENACH (NB9348), some 50 KM to the rear.

See current situation map 190600 Aug.

#### b. COMPOSITION

See ANNEX B Enemy Composition Report 190600 Aug.

#### c. STRENGTH

It is apparent now that the two MRD in contact have been pressing the fight with their MR regiments the past 24 hours, meaning that 52 MID is currently facing six MR regiments each with an organic tank battalion. This means that there are two tank regiments reinforcing plus the entire 9 GTD in the 10 CAA. In addition, 7 TA is sufficiently close to our FEBA to be considered as reinforcing in our sector. We estimate that in excess of 35 enemy FA and missile battalions have been used against 52 MID for the past 48 hours.

#### d. COMMITTED

See ANNEX B Enemy Composition Report 190600 Aug.

#### e. REINFORCEMENTS

See ANNEX B Enemy Composition Report 190600 Aug.

#### f. ARTILLERY

See ANNEX B Enemy Composition Report 190600 Aug.

#### g. AIR

Threat forces are supported by the 4th Air Army consisting of unidentified numbers of fighter bomber aircraft, ground attack aircraft, and reconnaissance aircraft. Air parity currently exists with either force capable of obtaining air superiority for limited periods of time. Up to now, threat forces have used a maximum of 40 fighter-bomber sorties in a 12-hour period.

#### h. NUCLEAR, CHEMICAL, AND BIOLOGICAL WEAPONS

No estimate of the threat nuclear support for the next 30 days is available. Threat currently has 152-millimeter gun/howitzers and surface-to-surface missiles capable of delivering 0.5 to 50 KT yield within range of our division.

No estimate of threat chemical and biological capability is available.

#### i. OTHER ENEMY FORCES

Special significance is given to the enemy 4th Airmobile Assault Brigade which has a capability for rapid insertion into our rear areas. There are no current indications of its employment in the 52 MID sector.

#### j. ENEMY RECENT ACTIVITIES

Enemy units in contact (six MRRs of 71 GMRD & 128 MRD) have been fighting hard and taking heavy casualties the past 24 hours.

Several indicators point to low supply in the two divisions in contact. Continued presence of 7 TA in 10 CAA rear and recent destruction of main rail line should cause continued resupply problems in 10 CAA for the next 48 hours. 71 GMRD in north has suffered the heaviest casualties and consumed the most ammo and POL. Estimate that the two MRRs in front of HOMBERG should be incapable of further major offensive action. The divisional tank regiment, now confirmed as being in the hills west of WICHTE (NB4154) took heavy casualties during their offensive two days ago and must be at no more than 70% combat strength with little POL or ammo reserve--should be capable of only limited offensive action.

128 MRD in the south is in only slightly better shape. MRR in front of TF 1-3 AR and TF 1-4 AR near SCHWARZENBORN is probably incapable of further offensive operations; elements of this MRR were spotted moving to the rear earlier this morning with no known replacements in the area. Further south the BMP & tank units now around OBERAULA are probably in better shape than any other unit in contact. The location of the tank regiment from 128 MRD is still not known for certain, but it is believed to be part or all of the enemy buildup around KIRCHHEIM that occurred last night. This TR probably is still capable of limited offense.

All or most of 9 GTD crossed the FULDA last night at multiple crossing points.



This crossing was virtually unopposed as all available firepower was used to support heavily engaged frontline units. Their movements were tracked into multiple assembly areas either side of the highway between STERKLEHAUSEN in the north and FRIEDLOS in the south. 9 GTD saw only limited action the first day and should have been at least partially resupplied that night. They are probably at 80-85% combat strength and capable of 24 hours of offensive operations without further resupply.

Army moving up in the rear is definitely the 7 TA with what appears to be three tank divisions and one MR division. A tank division identified as 6 GTD with T-72 tanks is in the vanguard. 7 TA has been traveling along parallel routes at night, halting during the day for past three days and appears now to be halted with forward elements some 10 KM west of EISENACH, 50 KM from front. Entire column is about 100 KM long by about 10 KM wide. Attempts to interdict column have been generally unsuccessful due to very effective enemy air defense.

Enemy low altitude air defense within 10-15 KM of the FEBA is losing its effectiveness. Success of friendly CAS early today and SIGINT & Air Force estimates suggest that enemy frontline AD is at 50-60% of its original effectiveness. Continued resupply problems should add to this weakness.

Enemy has not used nuclear weapons anywhere along European Front, and there are no confirmed reports of Soviet use of chemical or biological weapons. Appears NATO threat to treat chemical weapon use as same as nuclear is working. 10 US Corps cautions that setbacks in Soviet offensive increase the likelihood that they will resort to use of NBC Weapons.

Enemy artillery support continued heavy throughout the night last night, diminishing only with the slowdown in offensive activity around daybreak. Soviet superiority of 8:1 in FA & rocket firepower has diminished little despite the estimated destruction of over 100 enemy artillery weapons in our sector in the last 48 hours. It is believed that lack of resupply will hamper enemy artillery support beginning today. The enemy heavy MRL battalion that has barraged our CPs three times since hostilities began has not been located since an air-strike hit it around 0930 yesterday. It is believed to still be combat effective, and continued tight COMSEC/ELSEC is advised along with frequent CP moves.

#### a. ENEMY PECULIARITIES/WEAKNESSES

##### (1) PERSONNEL

Strength of 71 GMRD & 128 MRD in first echelon probably 80% or less in all maneuver units. Morale is apparently high except in those units seeing the heaviest action; 62 MRR in HOMBERG area and 46 MRR in front of SCHWARZENBORN.

##### (2) INTELLIGENCE

Enemy has apparently had some success intercepting our voice and electronic communications as evidenced by his success in locating our CPs and trains. Capture of enemy observation posts at two widely separate locations 15-20 KM behind our lines suggest a more expansive HUMINT network. Known enemy COMINT capability suggests use of friendly deception.

### (3) OPERATIONS

Enemy units in contact are believed not capable of further prolonged offensive operations with possible exception of 51 MRR in the south around OBERAULA. 9 GTD in 10 CAA second echelon could continue the offensive for maybe 24 hours without relief/resupply.

### (4) LOGISTICS

Successful friendly attack on 10 CAA main rail line and movement of 7 TA into 10 CAA rear appear to have created severe resupply problems for 10 CAA which should be evident today and should last for 24-48 hours. Effects are greatest on frontline units of 71 GMRD & 128 MRD. 9 GTD believed to have been at least partially resupplied prior to moving west of the FULDA River last night.

### (5) CIVIL-MILITARY OPERATIONS

No known enemy large-scale impressment of FRG civilian labor to date. No known organized civilian resistance in 10 CAA rear to date.

### (6) PERSONALITIES

Appearance of General-Colonel Kostylev as Central Front CG surprising as he was expected to command the theater; highly feared, very political officer.

CG of 10 CAA, General-Lieutenant Reznichenco, able tactician, wrote much doctrine on offensive warfare.

CG of 7 TA, General-Lieutenant Pavlenko, highly favored in Kremlin, considered aggressive, somewhat reckless by Soviet standards.

9 GTD CG, General-Major Loszk, stable and dependable.

71 GMRD CG, General-Major Suvorov, is young; little known about him.

128 MRD CG is unknown, believed not to have had this command more than 2 months.

## 4. ENEMY CAPABILITIES

### a. Enumeration

Attack across our division front at any time with two tank regiments and elements of six motorized rifle regiments supported by normal divisional and regimental artillery with main effort along avenue of approach BAD HERZFELD (NB5035)-OBERAULA-NEUKIRCHEN-TREYSA.

Attack across our division front at any time with two tank regiments and elements of six motorized rifle regiments supported by normal divisional and regimental artillery with main effort along avenue of approach OBERBEISHEIM-HOMBERG-BORKEN.

Attack across our division front at any time with two tank regiments and elements of six motorized rifle regiments supported with normal divisional and regimental artillery with main effort along avenue of approach KIRCHHEIM-

**MACHTLOS (NB3428)-LINGELBACH (NB2823)-ALSFELD.**

Defend in his present position with forces in contact supported by normally available divisional and regimental artillery.

Reinforce defense or attack at any time with three tank regiments and one MRR of 9 GTD and other reinforcing units.

Employ chemical agents in our sector at any time.

Employ nuclear weapons of 0.5 KT to 50 KT yield at any time with delivery by artillery, surface-to-surface missiles, or tactical air.

Employ airmobile assault forces in our rear either alone or in conjunction with capabilities enumerated above.

Attack our area with an undetermined number of fighter, ground attack, and bomber sorties daily. Maximum number of daily sorties mounted in our sector has been 64.

#### **b. ANALYSIS AND DISCUSSION**

Attack with main effort OBERBEISHEIM-HOMBERG-BORKEN. Present dispositions of threat forces do not favor adoption of this capability. The avenues of approach are narrow and cause fragmentation of the enemy force. The lead regiments in contact of the 71st GMRD are incapable of further combat and the terrain would channelize the high speed armor avenues of approach for the 9th GTD. This avenue poses high risk to friendly forces in that the enemy could penetrate along the 28 Panzer Division-52 MID Boundary, turn the division and corps flanks, cut north-south lines of communication, and open the way for exploitation by the 7 TA.

Attack with main effort BAD HERSFELD-OBERAULA-TREYSA. Present dispositions of threat forces indicate adoption of this capability. The avenue of approach is adequate enough to support at least three regiments abreast although the terrain is the most defensible in 52 MID sector. It is likely that a main attack will be conducted in this area through which he could move quickly to the communications center at TREYSA. 9 GTD is positioned to quickly pass through the 128 MRD to lead the attack and could be readily reinforced by elements of 7 TA.

Attack with main effort KIRCHHEIM-LINGELBACH-ALSFELD. Enemy dispositions do not favor this capability. The avenue is the longest approach into our position and would expose a flank of the enemy force to our counterattack from the west. This approach is, however, the most direct route to FRANKFURT and would attempt to penetrate the most lightly defended portion of the 10 US Corps front.

Defend in present position. A defense in position would allow the enemy to reorganize and resupply; however adoption of this capability would cause the enemy overall operation to lose momentum and would permit friendly forces considerable opportunity for replacement and resupply and to seize the initiative to restore the IGB. Enemy troop dispositions do not favor this capability.

Reinforcement. Present enemy dispositions indicate that this capability is highly probable principally in the KASSEL-HOMBERG-BAD HERSFELD area.

Employ chemical agents. There are no indications that the threat will employ chemical weapons. Prevailing westerly winds do not favor this capability along the present line of contact; however, deep use of chemicals in our rear areas to hinder combat service support operations must be considered if the enemy attack slows significantly.

Employ nuclear weapons. There is no indication that threat forces will employ nuclear weapons.

Employ airborne assault forces. The limited availability of enemy deep threat forces coupled with the lack of any indications of the employment of the 4th Airmobile Assault Brigade do not favor this capability. Additionally, enemy airlift forces are known to be in short supply.

Conduct air attacks in the division sector. All indications are that air strikes against friendly divisional forces will continue at high levels (50-70 sorties per day). Some reduction in air sorties over past 12 hours suggest the enemy air support is preparing for a continuation of the enemy attack.

## 5. CONCLUSIONS

### a. EFFECT OF INTELLIGENCE CONSIDERATIONS ON OPERATIONS

The mission can be supported from an intelligence standpoint. Significant enemy casualties in first echelon regiments indicate that continuation of enemy offensive operations is not possible without significant reinforcements; however, ready availability of 9 GTD and 7 TA as reinforcements indicates that enemy is prepared to continue his attack.

### b. EFFECT OF AREA OF OPERATION ON OWN COURSES OF ACTION

Terrain favors our continued defense since we occupy very desirable high ground. The high speed avenues of approach in the south invite enemy attack vicinity of OBERAULA-SCHWARZENBORN. Weather will give us good observation and fields of fire for the next couple of days, and as rain and cloud cover moves in on 21-22 August, enemy cross country movement will be considerably hampered, thus enhancing our defense.

### c. PROBABLE ENEMY COURSES OF ACTION

Ranking of enemy courses of action from most likely to least likely:

1. Attack with main effort along BAD HERSFELD-OBERAULA-TREYSA Avenue by elements of the 9th GTD supported by elements of the 128 MRD.
2. Attack with main effort along OBERBEISHEIM-HOMBERG-BORKEN Avenue by elements of the 9th GTD supported by elements of the 71 MRD.

Reinforce either attack with units of the 7th TA.

Attack our area with fighter, ground attack, and bomber sorties with up to 70 sorties per day.

#### **d. ENEMY VULNERABILITIES**

**Extended enemy supply lines are susceptible to friendly air attack.**

**Weakened low altitude air defenses near the FEBA makes them vulnerable to shallow friendly air strikes.**

**Reduction in enemy combat power, particularly in 71 GMRD and 128 MRD, due to reduced supplies of artillery ammunition, limited personnel replacements, and temporary shortages of other supplies caused by recent combat makes them vulnerable to limited counterattacks.**

**Enemy reliance on COMINT makes them vulnerable to deception operations.**

# ANNEX A: WEATHER

## 1. WEATHER HISTORY

| DATE   | TEMP (F) |     | PRECIPITATION |        | SURFACE WIND |     | VISIBILITY<br>KM* |
|--------|----------|-----|---------------|--------|--------------|-----|-------------------|
|        | MIN      | MAX | TYPE          | AMOUNT | DIR          | VEL |                   |
| 14 AUG | 48       | 78  |               | 0.0    | NW           | 5   | 3.5               |
| 15 AUG | 50       | 80  |               | 0.0    | NW           | 8   | 3.5               |
| 16 AUG | 48       | 78  |               | 0.0    | NNW          | 8   | 3.5               |
| 17 AUG | 45       | 75  |               | 0.0    | WNW          | 15  | 3.5               |
| 18 AUG | 45       | 75  |               | 0.0    | NW           | 10  | 3.0               |

\* VISIBILITY 0.25 KM IN EARLY MORNING FOG

## 2. WEATHER FORECAST

| DATE   | LIGHT |      | TEMP (F) |     | PRECIP<br>TYPE AMT | WIND |     | VIZ |     |     | BAR   | MOON |
|--------|-------|------|----------|-----|--------------------|------|-----|-----|-----|-----|-------|------|
|        | ENR   | EXT  | MIN      | MAX |                    | DIR  | VEL | KM  | SUN | CLD |       |      |
| 19 AUG | 0403  | 2058 | 47       | 75  | 0.0                | N    | 12  | 3.0 | 80  | 1/4 | 30.02 | 3Q   |
| 20 AUG | 0404  | 2057 | 50       | 77  | 0.0                | NW   | 15  | 2.5 | 85  | 5/8 | 29.87 | 3Q   |
| 21 AUG | 0408  | 2054 | 50       | 74  | 0.0                | WNW  | 12  | 1.5 | 85  | 5/8 | 29.54 | 3Q   |
| 22 AUG | 0408  | 2052 | 45       | 72  | RAIN 0.3           | W    | 18  | 0.5 | 100 | 8/8 | 29.49 | 4Q   |
| 23 AUG | 0410  | 2050 | 48       | 75  | 0.0                | SW   | 5   | 1.5 | 80  | 1/2 | 29.51 | 4Q   |

# ANNEX B: SPENT COMPOSITION

10 CAA

9 OTD

REINFORCEMENT

|              |               |
|--------------|---------------|
| 81 MTR       | REINFORCEMENT |
| 1-81 MTBN    | REINFORCEMENT |
| 2-81 MTBN    | REINFORCEMENT |
| 3-81 MTBN    | REINFORCEMENT |
| 4-81 MTBN    | REINFORCEMENT |
| 55 ARTY BN   | ARTILLERY     |
| 83 MTR       | REINFORCEMENT |
| 1-83 MTBN    | REINFORCEMENT |
| 2-83 MTBN    | REINFORCEMENT |
| 3-83 MTBN    | REINFORCEMENT |
| 4-83 MTBN    | REINFORCEMENT |
| 88 ARTY BN   | ARTILLERY     |
| 87 MTR       | REINFORCEMENT |
| 1-87 MTBN    | REINFORCEMENT |
| 2-87 MTBN    | REINFORCEMENT |
| 3-87 MTBN    | REINFORCEMENT |
| 4-87 MTBN    | REINFORCEMENT |
| 83 ARTY BN   | ARTILLERY     |
| 223 MTR      | REINFORCEMENT |
| 1-223 MTBN   | REINFORCEMENT |
| 2-223 MTBN   | REINFORCEMENT |
| 3-223 MTBN   | REINFORCEMENT |
| 4-223 MTBN   | REINFORCEMENT |
| 117 ARTY BN  | ARTILLERY     |
| 41 ARTY REGT | ARTILLERY     |
| 73 ARTY BN   | ARTILLERY     |
| 118 ARTY BN  | ARTILLERY     |
| 201 ARTY BN  | ARTILLERY     |
| 11 MRL BN    | ARTILLERY     |
| 57 PRG BN    | ARTILLERY     |
| 344 RECON BN |               |
| 33 ECPT SQN  |               |
| 18 SAM REGT  |               |
| A/18 SAM BTY |               |
| B/18 SAM BTY |               |
| C/18 SAM BTY |               |
| D/18 SAM BTY |               |
| E/18 SAM BTY |               |

71 DSD

COMMITTED

|            |           |
|------------|-----------|
| 82 MTR     | COMMITTED |
| 1-82 MTBN  | COMMITTED |
| 2-82 MTBN  | COMMITTED |
| 3-82 MTBN  | COMMITTED |
| 4-82 MTBN  | COMMITTED |
| 41 ARTY BN | ARTILLERY |
| 89 MTR     | COMMITTED |
| 1-89 MTBN  | COMMITTED |
| 2-89 MTBN  | COMMITTED |

|              |               |
|--------------|---------------|
| 3-85 MRSN    | COMMITTED     |
| 4-85 MTBN    | COMMITTED     |
| 53 ARTY BN   | ARTILLERY     |
| 76 MGR       | COMMITTED     |
| 1-76 MRSN    | COMMITTED     |
| 2-76 MRSN    | COMMITTED     |
| 3-76 MRSN    | COMMITTED     |
| 4-76 MTBN    | COMMITTED     |
| 103 ARTY BN  | ARTILLERY     |
| 11 MTR       | REINFORCEMENT |
| 1-11 MTBN    | REINFORCEMENT |
| 2-11 MTBN    | REINFORCEMENT |
| 3-11 MTBN    | REINFORCEMENT |
| 35 ARTY BN   | ARTILLERY     |
| 18 ARTY REGT | ARTILLERY     |
| 49 ARTY BN   | ARTILLERY     |
| 57 ARTY BN   | ARTILLERY     |
| 183 ARTY BN  | ARTILLERY     |
| 25 ARTY BN   | ARTILLERY     |
| 21 MRL BN    | ARTILLERY     |
| 15 FROG BN   | ARTILLERY     |
| 17 AT BN     |               |
| 32 RECON BN  |               |
| 22 ECPT SQN  |               |
| 13 SAM REGT  |               |
| A/13 SAM BTY |               |
| B/13 SAM BTY |               |
| C/13 SAM BTY |               |
| D/13 SAM BTY |               |
| E/13 SAM BTY |               |
| 128 MRO      | COMMITTED     |
| 40 MGR       | COMMITTED     |
| 1-40 MRSN    | COMMITTED     |
| 2-40 MRSN    | COMMITTED     |
| 3-40 MRSN    | COMMITTED     |
| 4-40 MTBN    | COMMITTED     |
| 116 ARTY BN  | ARTILLERY     |
| 46 MGR       | COMMITTED     |
| 1-46 MRSN    | COMMITTED     |
| 2-46 MRSN    | COMMITTED     |
| 3-46 MRSN    | COMMITTED     |
| 4-46 MTBN    | COMMITTED     |
| 84 ARTY BN   | ARTILLERY     |
| 51 MGR       | COMMITTED     |
| 1-51 MRSN    | COMMITTED     |
| 2-51 MRSN    | COMMITTED     |
| 3-51 MRSN    | COMMITTED     |
| 4-51 MTBN    | COMMITTED     |
| 227 ARTY BN  | ARTILLERY     |
| 152 MTR      | REINFORCEMENT |
| 1-152 MTBN   | REINFORCEMENT |
| 2-152 MTBN   | REINFORCEMENT |
| 3-152 MTBN   | REINFORCEMENT |
| 19 ARTY BN   | ARTILLERY     |



|              |           |
|--------------|-----------|
| 83 ARTY REGT | ARTILLERY |
| 20 ARTY BN   | ARTILLERY |
| 108 ARTY BN  | ARTILLERY |
| 238 ARTY BN  | ARTILLERY |
| 47 MRL BN    | ARTILLERY |
| 103 FROG BN  | ARTILLERY |
| 44 AT BN     |           |
| 122 RECON BN |           |
| 82 BCPT SQN  |           |
| 7 SAM REGT   |           |
| A/7 SAM BTY  |           |
| B/7 SAM BTY  |           |
| C/7 SAM BTY  |           |
| D/7 SAM BTY  |           |
| E/7 SAM BTY  |           |

|              |           |
|--------------|-----------|
| 74 ARTY REGT | ARTILLERY |
| 31 ARTY BN   | ARTILLERY |
| 33 ARTY BN   | ARTILLERY |
| 18 ARTY BN   | ARTILLERY |
| 39 ARTY BN   | ARTILLERY |
| 9 MRL BN     | ARTILLERY |

11 SAM BDE

1-11 SAM BN

2-11 SAM BN

3-11 SAM BN

|            |           |
|------------|-----------|
| 8 MRL REGT |           |
| 36 MRL BN  | ARTILLERY |
| 38 MRL BN  | ARTILLERY |
| 40 MRL BN  | ARTILLERY |

3 OTD REINFORCEMENT

8 MTR REINFORCEMENT  
13 MTR REINFORCEMENT  
18 MTR REINFORCEMENT  
38 MTR REINFORCEMENT

6 OTD REINFORCEMENT

25 MTR REINFORCEMENT  
27 MTR REINFORCEMENT  
30 MTR REINFORCEMENT  
53 MTR REINFORCEMENT

50 MRO REINFORCEMENT

82 MTR REINFORCEMENT  
86 MTR REINFORCEMENT  
91 MTR REINFORCEMENT  
32 MTR REINFORCEMENT

17 TD REINFORCEMENT

58 MTR REINFORCEMENT  
63 MTR REINFORCEMENT  
64 MTR REINFORCEMENT  
97 MTR REINFORCEMENT

#### CENTRAL FRONT

7 SBH BDE ARTILLERY

1-7 SBH BN ARTILLERY  
2-7 SBH BN ARTILLERY  
3-7 SBH BN ARTILLERY

4 AMBL BDE REINFORCEMENT

| 48 GPRD      | COMMITTED     |
|--------------|---------------|
| 37 MRR       | COMMITTED     |
| 1-37 MRBN    | COMMITTED     |
| 2-37 MRBN    | COMMITTED     |
| 3-37 MRBN    | COMMITTED     |
| 4-37 MTBN    | COMMITTED     |
| 107 ARTY BN  | ARTILLERY     |
| 55 MRR       | COMMITTED     |
| 1-55 MRBN    | COMMITTED     |
| 2-55 MRBN    | COMMITTED     |
| 3-55 MRBN    | COMMITTED     |
| 4-55 MTBN    | COMMITTED     |
| 81 ARTY BN   | ARTILLERY     |
| 58 MRR       | COMMITTED     |
| 1-58 MRBN    | COMMITTED     |
| 2-58 MRBN    | COMMITTED     |
| 3-58 MRBN    | COMMITTED     |
| 4-58 MTBN    | COMMITTED     |
| 123 ARTY BN  | ARTILLERY     |
| 54 MTR       | REINFORCEMENT |
| 1-54 MTBN    | REINFORCEMENT |
| 2-54 MTBN    | REINFORCEMENT |
| 3-54 MTBN    | REINFORCEMENT |
| 81 ARTY BN   | ARTILLERY     |
| 22 ARTY REGT | ARTILLERY     |
| 17 ARTY BN   | ARTILLERY     |
| 64 ARTY BN   | ARTILLERY     |
| 72 ARTY BN   | ARTILLERY     |
| 111 ARTY BN  | ARTILLERY     |
| 12 MRL BN    | ARTILLERY     |
| 96 FROO BN   | ARTILLERY     |
| 40 AT BN     |               |
| 155 RECON BN |               |
| 48 ECPT SQN  |               |
| 6 SAM REGT   |               |

# ARTILLERY

10 CAA

| UNIT         | BOM<br>122T | BOM<br>122SP | GUN<br>130T | G/S<br>152T | BOM<br>152T | BOM<br>152SP | GUN<br>160T | MRL<br>122 | MRL<br>240 | FRAG | SS-23 |
|--------------|-------------|--------------|-------------|-------------|-------------|--------------|-------------|------------|------------|------|-------|
| 71 GPRD      | 4 BN        | 2 BN         |             | 1 BN        |             | 1 BN         |             | 1 BN       |            | 1 BN |       |
| 126 PRD      | 5 BN        | 1 BN         |             |             |             | 1 BN         |             | 1 BN       |            | 1 BN |       |
| 9 OTD        | 5 BN        | 1 BN         |             |             |             | 1 BN         |             | 1 BN       |            | 1 BN |       |
| 74 ARTY REGT |             |              | 3 BN        | 1 BN        |             |              |             |            | 1 BN       |      |       |
| 8 MRL REGT   |             |              |             |             |             |              |             | 3 BN       |            |      |       |
| 7 SEM BDE    |             |              |             |             |             |              |             |            |            |      | 3 BN  |

9 OTD

## ARTILLERY BATTALION

| WEAPON<br>(PER BN) | BOM<br>122 T | BOM<br>122 SP | G/S<br>152 T | BOM<br>152 SP | MRL<br>122 | FRAG    | PER<br>CENT |
|--------------------|--------------|---------------|--------------|---------------|------------|---------|-------------|
| UNIT               | (10)         | (10)          | (10)         | (10)          | (10)       | (4)     |             |
| 81 MTR             | 55 ARTY      |               |              |               |            |         | 90          |
| 83 MTR             | 88 ARTY      |               |              |               |            |         | 65          |
| 87 MTR             | 93 ARTY      |               |              |               |            |         | 65          |
| 229 MTR            |              | 117 ARTY      |              |               |            |         | 70          |
| 9 DAG              | 73 ARTY      |               |              |               |            |         | 80          |
|                    | 118 ARTY     |               |              |               |            |         | 75          |
|                    |              |               |              | 201 ARTY      |            |         | 75          |
|                    |              |               |              |               | 11 MRL     |         | 75          |
|                    |              |               |              |               |            | 37 FRAG | 75          |

71 GPRD

## ARTILLERY BATTALION

| WEAPON<br>(PER BN) | HOW      | HOW      | G/H  | HOW    | MRL     | PROG | PER<br>CENT |
|--------------------|----------|----------|------|--------|---------|------|-------------|
| PARENT             | 122T     | 122SP    | 152T | 152SP  | 122     |      |             |
| UNIT               | (10)     | (10)     | (10) | (10)   | (10)    | (4)  |             |
| 62 MRL             |          | 41 ARTY  |      |        |         |      | 55          |
| 65 MRL             |          | 33 ARTY  |      |        |         |      | 60          |
| 76 MRL             | 103 ARTY |          |      |        |         |      | 60          |
| 11 MTR             | 35 ARTY  |          |      |        |         |      | 85          |
| 71 DAG             | 49 ARTY  |          |      |        |         |      | 80          |
|                    | 37 ARTY  |          |      |        |         |      | 65          |
|                    |          | 103 ARTY |      |        |         |      | 70          |
|                    |          | 25 ARTY  |      |        |         |      | 65          |
|                    |          |          |      | 21 MRL |         |      | 60          |
|                    |          |          |      |        | 15 PROG |      | 75          |

128 MRD

## ARTILLERY BATTALION

| WEAPON<br>(PER BN) | HOW      | HOW      | G/H  | HOW    | MRL      | PROG | PER<br>CENT |
|--------------------|----------|----------|------|--------|----------|------|-------------|
| PARENT             | 122T     | 122SP    | 152T | 152SP  | 122      |      |             |
| UNIT               | (10)     | (10)     | (10) | (10)   | (10)     | (4)  |             |
| 40 MRL             | 116 ARTY |          |      |        |          |      | 60          |
| 48 MRL             | 84 ARTY  |          |      |        |          |      | 55          |
| 51 MRL             |          | 227 ARTY |      |        |          |      | 60          |
| 132 MTR            | 19 ARTY  |          |      |        |          |      | 60          |
| 128 DAG            | 20 ARTY  |          |      |        |          |      | 75          |
|                    | 108 ARTY |          |      |        |          |      | 60          |
|                    |          | 239 ARTY |      |        |          |      | 55          |
|                    |          |          |      | 47 MRL |          |      | 50          |
|                    |          |          |      |        | 103 PROG |      | 50          |

74 ARTY REGT

## ARTILLERY BATTALION

| WEAPON<br>(PER BN) | HOW   | HOW     | G/H     | HOW   | MRL   | MRL | PER<br>CENT |
|--------------------|-------|---------|---------|-------|-------|-----|-------------|
| PARENT             | 203SP | 190     | 152T    | 152SP | 122   | 240 |             |
| UNIT               | (UNK) | (10)    | (10)    | (10)  | (10)  | (4) |             |
| 74 ARTY REGT       |       |         | 39 ARTY |       |       |     | 45          |
|                    |       | 18 ARTY |         |       |       |     | 70          |
|                    |       | 31 ARTY |         |       |       |     | 60          |
|                    |       | 39 ARTY |         |       |       |     | 60          |
|                    |       |         |         |       | 9 MRL |     | 70          |

6 MRL REGT

ARTILLERY BATTALION

| WEAPON<br>(PER BN) | GUN   | GUN  | G/E  | HOW   | MRL  | MRL | PER<br>CENT |
|--------------------|-------|------|------|-------|------|-----|-------------|
| PARENT             | 203SP | 130  | 152T | 152SP | 122  | 240 |             |
| UNIT               | (UNK) | (18) | (18) | (18)  | (18) | (4) |             |

6 MRL REGT

|           |    |
|-----------|----|
| 36 MRL BN | 90 |
| 39 MRL BN | 65 |
| 40 MRL BN | 75 |

ANNEX C: EVENT LOCATIONS as of 180400 AUG

| UNIT NAME    | UNIT LOCATION |
|--------------|---------------|
| 9 OTD        | NB 483 424    |
| 81 MTR       | NB 483 431    |
| 83 MTR       | NB 488 408    |
| 87 MTR       | NB 483 386    |
| 223 MTR      | NB 453 375    |
| A/18 SAM BTY | ?             |
| 73 ARTY BN   | ?             |
| 118 ARTY BN  | ?             |
| 201 ARTY BN  | NB 423 500    |
| 11 MRL BN    | ?             |
| 57 PROG BN   | NB 683 455    |
| 344 RECON BN | ?             |
| 33 SCPT SQN  | ?             |
| B/18 SAM BTY | ?             |
| 71 GPRD      | NB 520 483    |
| 62 MTR       | NB 363 538    |
| 1-62 MTRN    | NB 348 545    |
| 2-62 MTRN    | NB 344 525    |
| 3-62 MTRN    | NB 341 555    |
| 4-62 MTRN    | NB 351 540    |
| 41 ARTY BN   | NB 415 540    |
| 65 MTR       | NB 370 500    |
| 1-65 MTRN    | NB 359 514    |
| 2-65 MTRN    | NB 345 505    |
| 3-65 MTRN    | NB 344 480    |
| 4-65 MTRN    | NB 350 500    |
| 53 ARTY BN   | NB 398 510    |
| 76 MTR       | NB 370 455    |
| 1-76 MTRN    | NB 344 475    |
| 2-76 MTRN    | NB 347 457    |
| 3-76 MTRN    | NB 348 440    |
| 4-76 MTRN    | NB 355 460    |
| 103 ARTY BN  | NB 405 466    |
| 11 MTR       | NB 400 545    |
| 1-11 MTRN    | NB 394 555    |
| 2-11 MTRN    | NB 390 530    |
| 3-11 MTRN    | NB 400 535    |
| 35 ARTY BN   | NB 408 534    |
| C/18 SAM BTY | NB 483 483    |
| 48 ARTY BN   | NB 423 485    |
| 57 ARTY BN   | NB 408 454    |
| 183 ARTY BN  | ?             |
| 21 MRL BN    | ?             |
| 15 PROG BN   | ?             |
| 17 AT BN     | NB 354 530    |
| 22 RECON BN  | NB 350 565    |
| 22 SCPT SQN  | NA 850 288    |
| D/18 SAM BTY | NB 510 425    |

|              |            |
|--------------|------------|
| 128 MBD      | NB 307 370 |
| 48 MBR       | NB 370 420 |
| 1-40 MBRN    | NB 349 417 |
| 2-40 MBRN    | NB 349 417 |
| 3-40 MBRN    | NB 341 417 |
| 4-40 MBRN    | NB 355 422 |
| 116 ARTY BN  | NB 379 425 |
| 48 MBR       | NB 365 380 |
| 1-46 MBRN    | NB 345 398 |
| 2-46 MBRN    | NB 380 410 |
| 3-46 MBRN    | NB 339 380 |
| 4-46 MBRN    | NB 375 407 |
| 84 ARTY BN   | NB 405 385 |
| 51 MBR       | NB 360 345 |
| 1-51 MBRN    | NB 348 368 |
| 2-51 MBRN    | NB 337 357 |
| 3-51 MBRN    | NB 344 325 |
| 4-51 MBRN    | NB 345 334 |
| 227 ARTY BN  | NB 383 332 |
| 152 MTR      | NB 405 325 |
| 1-152 MTRN   | ?          |
| 2-152 MTRN   | ?          |
| 3-152 MTRN   | ?          |
| 18 ARTY BN   | NB 395 323 |
| B/13 SAM BTY | NB 448 450 |
| 20 ARTY BN   | NB 410 360 |
| 108 ARTY BN  | NB 400 345 |
| 239 ARTY BN  | NB 465 395 |
| 47 MRL BN    | ?          |
| 103 FROG BN  | NB 430 395 |
| 44 AT BN     | NB 385 325 |
| 122 RECON BN | NB 365 325 |
| 82 BCTT SQN  | ?          |
| C/13 SAM BTY | NB 430 500 |
| 18 ARTY BN   | NB 430 435 |
| 39 ARTY BN   | ?          |
| 9 MRL BN     | ?          |
| 1-11 SAM BN  | NB 408 440 |
| 2-11 SAM BN  | NB 507 462 |
| 3-11 SAM BN  | NB 578 420 |
| 36 MRL BN    | NB 520 460 |
| 39 MRL BN    | NB 530 471 |
| 40 MRL BN    | ?          |
| 1-7 SAM BN   | NB 908 460 |
| 2-7 SAM BN   | NB 989 475 |
| 3-7 SAM BN   | NB 874 454 |



## **PRELIMINARY LOGISTIC ESTIMATE**

### **1. MISSION**

52 Mech Div defends in sector along present line of contact from vicinity HOMBERG (NB2853) in the north to WEISSENBORN (NB3030) in the south; destroys first echelon regiments of enemy 10 CAA; and prevents any breakthrough in sector.

### **2. SITUATION AND CONSIDERATIONS**

#### **a. INTELLIGENCE SITUATION (See Intel Estimate for 190600 Aug)**

##### **(1) CHARACTERISTICS OF THE AREA**

The division zone of operations is characterized by steep hills, intermittent forests, and several rivers and streams. There are sufficient two-way roads and autobahns in the area to support normal logistic traffic. Cross-country movement of logistic vehicles is possible but not desirable. All forested areas contain numerous roads and trails which facilitate vehicular traffic off the main roads.

There are no major cities in the 52 Mech Div sector that can be used for division rear; however, CSS elements are fully capable of operating from the smaller towns dispersed throughout the division sector. Additionally, forests located behind the FEBA offer cover and concealment for CSS operations.

Major bridges in the zone are the autobahn overpasses and underpasses and the crossing sites over the EFZE and SCHWALM Rivers. Bridges on all primary and most secondary roads are rated at class 60 or greater. If bridges are destroyed, bypassing will be generally easy.

Weather is favorable for logistic operations. Overcast and rain by 22 Aug will conceal forward movement and distribution of supplies, and is not expected to have any major impact on highway movements.

##### **(2) ENEMY STRENGTH AND DISPOSITION**

Enemy forces consist of elements of the 10 CAA, major units of which have been identified as the 9 GTD, 71 GMRD, and 128 MRD. The motorized rifle divisions are currently committed against the 52 Mech Div, and the 9 GTD is immediately available reinforcement capability. The 7 TA is moving up behind the 10 CAA and may also be considered as a likely reinforcement. Continuation of the enemy attack, although weakened by two days of continued battle, is believed to be the enemy's most probable course of action. Reinforcement of enemy offensive operations by elements of the 7 TA will have a major impact on logistic operations, both in terms of demanding increased logistic support as well as interrupting logistic operations.

##### **(3) ENEMY CAPABILITIES**

Enemy capability to employ long-range artillery and air strikes can disrupt and delay CSS operations.

Enemy capability to employ guerrilla forces as well as airmobile units in our

rear areas can severely inhibit CSS operations.

Enemy capability to employ nuclear and chemical weapons could very detrimentally impact CSS operations; however, there are no current indications that the enemy will exercise this capability.

#### b. TACTICAL SITUATION

##### (1) Present Dispositions.

For present disposition of major tactical units, see graphics situation 190600 Aug.

##### (2) Possible Courses of Action.

Possible courses of action to accomplish the division mission:

CA 1- Defend assigned sector with brigades on line weighted to defend against an enemy main attack along the OBERBEISHEIM-HOMBERG-BORKEN (northern) avenue of approach and the reserves located well forward in a position to counterattack an enemy penetration.

CA 2- Defend assigned sector with brigades on line weighted to defend against an enemy main attack along the OBERAULA-NEUKIRCHEN-TREYSA (southern) avenue of approach and the reserves located well forward in a position to counterattack an enemy penetration.

CA 3- Defend assigned sector with two brigades on line balanced to defend against an enemy main attack along either the OBERBEISHEIM-HOMBERG-BORKEN avenue or the OBERAULA-NEUKIRCHEN-TREYSA avenue with the reserve brigade located rearward in a position to block or counterattack an enemy penetration along either avenue of approach.

#### c. PERSONNEL SITUATION (See Pers Estimate for 190600 Aug)

For present dispositions of administrative installations affecting CSS operations, see Admin/Logistics Overlay 2 (omitted).

For unit strength see strength reports 190600 Aug.

Estimated division strengths for 19-21 Aug are as follows:

|        | START | END   |
|--------|-------|-------|
| 19 Aug | 17327 | 16305 |
| 20 Aug | 16305 | 15399 |
| 21 Aug | 15399 | 14615 |

Replacements will be at the rate of 130 per day.

There are no major MOS shortages affecting logistic operations.

#### d. CIVIL MILITARY OPERATIONS SITUATION

For present dispositions of civil affairs units that have an effect on logistic operations, see Civil-Military Operations Overlay 2 (omitted).

The refugee control and evacuation problem is acute and may curtail effective CSS operations. Refugees are not permitted on major roads; however, traffic control remains a major problem because of refugee movements.

#### e. LOGISTIC SITUATION

For dispositions of division logistic units, division MSRs, and corps CSS facilities, see Admin/Logistic Overlay 2 (omitted).

The current logistic situation is good; and resupply distances are essentially normal. There are no critical shortages in class I, II, and III. Basic loads of ammunition for all units have been replenished. Transportation assets are adequate to support CSS operations.

##### (1) MAINTENANCE

Maintenance priorities at corps:

- 1- Tanks
- 2- APCs
- 3- FA
- 4- ADA
- 5- Truck/tractor, 5T
- 6- Other

Controlled cannibalization authorized to organizational level.

Shortages exist in electronic spare parts for surveillance and fire control equipment.

DS maintenance capability for repairable major items is return of 75% of losses to users within 36 hours.

##### (2) SUPPLY

No shortages in Class I. Division currently has 3 days on hand. Ration cycle is C/C/B.

There are no shortages of Class II items; however, issues will be restricted to emergency or mission-essential items.

For Class III, see Class III status report 190600 Aug. Two day supply level of packaged and bulk POL at DS level (DSA/BSA).

There is a severe shortage of Class IV supplies in the division; however, corps expects to bring all DS units up to a 3-day supply level within 48 hours. Priority of issue to division engineer battalion.

For Class V, see Class V status report 190600 Aug.

RSRs for critical weapons systems are as follows:

|               |      |
|---------------|------|
| Tank, 105mm   | 35   |
| How, 155mm SP | 200  |
| How, 8 in SP  | 175  |
| Vulcan, 20mm  | 6000 |
| Chaparral     | xx   |

Class VI provided through Class I channels.

For Class VII, see equipment status reports 190600 Aug.

Available Class VIII medical supplies are adequate to support planned operations.

Class IX shortages exist for surveillance and fire control equipment.

Class X (civil relief supplies) will be coordinated through command channels and will be issued through Class IV SP.

Potable water available from engineer water points is only approved source.

Emergency destruction of supplies (except medical) is authorized to prevent capture.

#### (3) SERVICES

Priority of corps GS field services to 23d Armd Div and 52 Mech Div, in order.

Prompt evacuation of remains is necessary. Hasty burials are not authorized.

#### (4) TRANSPORTATION

All MSRs will be controlled by 19th MP Co.

Airlift allocation from 10th (US) Corps is 100 STON daily.

S & T Bn capability is 540 STON (local haul) and 270 STON (line haul).

Road networks are good to excellent, and supply distances may become a problem.

Requests for air drop/air resupply must be submitted through logistics channels.

#### f. ASSUMPTIONS

Enemy will not employ nuclear or chemical munitions without warning.

Supplies will be available to support continued defensive operations as planned.

Enemy will not deploy airmobile forces into the division rear area.

### 3. ANALYSIS OF COURSES OF ACTION

#### a. SUFFICIENCY OF AREA

Sufficient area for logistical operations is available to support any of the courses of action.

Rear area contains sufficient small towns and wooded areas to accommodate CSS activities.

#### b. MATERIEL AND SERVICES

##### (1) MAINTENANCE

See equipment status reports for current status.

Evacuation of equipment to DS units for repair becomes excessive as CSS units are disposed in depth.

Spare parts (Class IX) are available to support all courses of action.

Division maintenance priorities for all courses of action are:

- 1- Tanks
- 2- APCs
- 3- Artillery
- 4- Other

##### (2) SUPPLY

No major deficiencies with Class I supply. Units can subsist for 3 days without resupply, if required.

All vehicles have been topped off with POL; however, Class III resupply will be required if significant fighting exceeds 48 hours.

Fortification materials are in short supply and will be emplaced only by 52 Engr Bn in accordance with established operational priorities.

Corps has not yet established any controlled supply rates for Class V; therefore, all RSRs can be accommodated.

Whole blood could become a problem if casualties continue at the present rate.

Battalion field trains and brigade trains are collocated in each BSA and are functioning effectively.

##### (3) SERVICES

COSCOM will continue to provide limited clothing exchange and bath services.

Graves registration support by corps units is handling current losses effectively.

#### (4) TRANSPORTATION

MSRs are available, are designated, and are capable of supporting all courses of action. Strict traffic control by division is mandatory to ensure efficient use of transportation.

Projected supply requirements will exceed capability of available vehicles. POL and ammunition should have first priority. Positioning of supply points any farther rearward will aggravate the transportation problem.

Shift to total unit distribution of supplies to the extent practicable is necessary.

Efficient loading and unloading at supply points is mandatory in order to reduce transportation turnaround times.

Movement rates need to be adjusted to 35 mph for daylight operations and 20 mph for nighttime operations.

Airlift is available on request from corps and can be used to the extent practicable to supplement ground transportation.

#### 4. COMPARISON OF COURSES OF ACTION

##### a. MAJOR DEFICIENCIES

Shortages in transportation can be partially reduced by requesting unit distribution of selected items by corps direct to division supply, distribution, and transfer points as well as to selected units. Backup transportation units from corps are available and can be requested immediately to help alleviate the transportation problem.

Transportation problem may be exacerbated by more rearward positioning of CSS installations; therefore, forward positioning of CSS operations is called for.

Class IV supplies are marginally adequate, although corps has indicated that adequate fortification materials will be available within 48 hours.

Shortages of electronic spare parts for surveillance and fire control equipment will persist for at least 48 hours. Request for priority of supply of these items has been made.

Enemy air operations will force dispersal of CSS installations and operations.

##### b. EFFECT ON COURSES OF ACTION

###### Course of action 1

More forward positioning of division CSS installations is demanded to cover both MBA defense and defense of north flank.

Adequate area is available to accommodate forward positioning of CSS installations.

Forward location of logistical installations decreases demand for transportation and other support services to MBA units.

Shorter supply lines within the division sector decrease the rear area security problem.

Supply point distribution of all supplies by corps support units will provide greatest assistance to division units under this course of action. Good roads support this distribution decision, and division supply operations will be reduced to a minimum.

- Course of action 2

More forward positioning of division CSS installations is demanded to cover both MBA defense and defense of south flank.

Adequate area is available to accommodate forward positioning of CSS installations.

Forward location of logistical installations decreases demand for transportation and other support services to MBA units.

Shorter supply lines within the division sector decrease the rear area security problem.

Supply point distribution of all supplies by corps support units will provide greatest assistance to division units under this course of action. Good roads support this distribution decision, and division supply operations will be reduced to a minimum.

- Course of action 3

Adequate area is available to accommodate forward positioning of brigade support areas (BSA).

Shortage of Class IV will make it difficult to establish deliberate defensive positions in the MBA in both brigade areas.

Rearward positioning of division CSS installations will exacerbate the transportation problem.

Longer supply lines within the division sector increase the rear area security problem.

## 5. CONCLUSIONS

The operation can be supported logistically.

CA 1 and CA 2 can be equally supported logistically with CA 3 being far less desirable. Recognition is given to the fact that enemy's adoption of a specific course of action will dictate selection of the friendly course of action.

The following deficiencies require the commanders attention:

- Shortage of transportation.
- Shortage of electronic spare parts.
- Limited availability of fortification materials.
- Danger of extended resupply distances.



| UNIT NAME   | TYPE | AMMO NAME   | BL    | CL    | TYPE | AMMO NAME   | BL   | CL   |
|-------------|------|-------------|-------|-------|------|-------------|------|------|
| 1-40 FA BN  | 4    | BOW 155     | 4210  | 4210  |      |             |      |      |
| 1-41 FA BN  | 4    | BOW 155     | 4210  | 4210  |      |             |      |      |
| 1-42 FA BN  | 4    | BOW 155     | 4210  | 4210  |      |             |      |      |
| 1-43 FA BN  | 5    | BOW 8 IN    | 1680  | 1680  |      |             |      |      |
| A/52 ENGR   | 3    | CEV 165     | 120   | 120   |      |             |      |      |
| B/52 ENGR   | 3    | CEV 165     | 120   | 120   |      |             |      |      |
| C/52 ENGR   | 3    | CEV 165     | 120   | 120   |      |             |      |      |
| D/52 ENGR   | 3    | CEV 165     | 120   | 120   |      |             |      |      |
| A/1-441 ADA | 9    | GUN 20 AD   | 72000 | 72000 |      |             |      |      |
| B/1-441 ADA | 9    | GUN 20 AD   | 72000 | 72000 |      |             |      |      |
| C/1-441 ADA | 8    | RKT 275AD   | 150   | 150   |      |             |      |      |
| D/1-441 ADA | 8    | RKT 275AD   | 150   | 150   |      |             |      |      |
| C/52 AVN    | 10   | TOW BCPT    | 420   | 420   | 11   | RKT 275BCPT | 880  | 880  |
|             | 12   | GUN 20 BCPT | 63000 | 63000 |      |             |      |      |
| D/52 AVN    | 10   | TOW BCPT    | 420   | 420   | 11   | RKT 275BCPT | 880  | 880  |
|             | 12   | GUN 20 BCPT | 63000 | 63000 |      |             |      |      |
| A/1-23 CAV  | 13   | TANK 105    | 790   | 790   | 7    | MORT 107    | 550  | 550  |
| B/1-23 CAV  | 13   | TANK 105    | 790   | 790   | 7    | MORT 107    | 550  | 550  |
| C/1-23 CAV  | 13   | TANK 105    | 790   | 790   | 7    | MORT 107    | 550  | 550  |
| D/1-23 CAV  | 10   | TOW BCPT    | 180   | 180   | 11   | RKT 275BCPT | 380  | 380  |
|             | 12   | GUN 20 BCPT | 27000 | 27000 |      |             |      |      |
| TF 1-77 IN  | 1    | TOW         | 190   | 190   | 13   | TANK 105    | 1120 | 1120 |
|             | 6    | MORT 81     | 940   | 940   | 7    | MORT 107    | 740  | 740  |
| TF 1-78 IN  | 1    | TOW         | 190   | 190   | 13   | TANK 105    | 1120 | 1120 |
|             | 6    | MORT 81     | 940   | 940   | 7    | MORT 107    | 740  | 740  |
| TF 1-79 IN  | 1    | TOW         | 290   | 290   | 6    | MORT 81     | 1400 | 1400 |
|             | 7    | MORT 107    | 740   | 740   |      |             |      |      |
| TF 1-80 IN  | 1    | TOW         | 190   | 190   | 13   | TANK 105    | 1120 | 1120 |
|             | 6    | MORT 81     | 940   | 940   | 7    | MORT 107    | 740  | 740  |
| TF 1-81 IN  | 1    | TOW         | 190   | 190   | 13   | TANK 105    | 2240 | 2240 |
|             | 6    | MORT 81     | 940   | 940   | 7    | MORT 107    | 740  | 740  |
| TF 1-82 IN  | 1    | TOW         | 190   | 190   | 13   | TANK 105    | 1120 | 1120 |
|             | 6    | MORT 81     | 940   | 940   | 7    | MORT 107    | 740  | 740  |
| TF 1-2 AR   | 1    | TOW         | 100   | 100   | 13   | TANK 105    | 2440 | 2440 |
|             | 6    | MORT 81     | 470   | 470   | 7    | MORT 107    | 740  | 740  |
| TF 1-3 AR   | 1    | TOW         | 100   | 100   | 13   | TANK 105    | 2440 | 2440 |
|             | 6    | MORT 81     | 470   | 470   | 7    | MORT 107    | 740  | 740  |
| TF 1-4 AR   | 1    | TOW         | 100   | 100   | 13   | TANK 105    | 1320 | 1320 |
|             | 6    | MORT 81     | 470   | 470   | 7    | MORT 107    | 740  | 740  |
| TF 1-5 AR   | 1    | TOW         | 100   | 100   | 13   | TANK 105    | 2440 | 2440 |
|             | 6    | MORT 81     | 470   | 470   | 7    | MORT 107    | 740  | 740  |
| TF 1-25 AR  | 1    | TOW         | 100   | 100   | 13   | TANK 105    | 2440 | 2440 |
|             | 6    | MORT 81     | 470   | 470   | 7    | MORT 107    | 740  | 740  |

ANNEX B: EQUIPMENT REPORT 190800 AUB

| UNIT NAME   | TYPE | EQUIP NAME | BL   | CL  | TYPE | EQUIP NAME | BL   | CL   |
|-------------|------|------------|------|-----|------|------------|------|------|
| EMC 52 DIV  | 1    | CARR CP    | 1.   | 1.  | 20   | TRK 2.5T   | 3.   | 2.   |
| EMC 1 BDE   | 1    | CARR CP    | 4.   | 2.  | 4    | AFC        | 2.   | 2.   |
|             | 20   | TRK 2.5T   | 5.   | 3.  |      |            |      |      |
| EMC 2 BDE   | 1    | CARR CP    | 4.   | 3.  | 4    | AFC        | 2.   | 2.   |
|             | 20   | TRK 2.5T   | 5.   | 4.  |      |            |      |      |
| EMC 3 BDE   | 1    | CARR CP    | 4.   | 4.  | 4    | AFC        | 2.   | 2.   |
|             | 20   | TRK 2.5T   | 5.   | 5.  |      |            |      |      |
| 52 CML CO   | 20   | TRK 2.5T   | 11.  | 8.  | 21   | TRK 5T     | 9.   | 8.   |
| 52 MP CO    | 20   | TRK 2.5T   | 1.   | 1.  | 21   | TRK 5T     | 1.   | 1.   |
| 52 MI BN    | 1    | CARR CP    | 3.   | 3.  | 4    | AFC        | 9.   | 8.   |
|             | 20   | TRK 2.5T   | 33.  | 30. | 21   | TRK 5T     | 1.   | 1.   |
| 52 SIG BN   | 20   | TRK 2.5T   | 49.  | 42. | 21   | TRK 5T     | 2.   | 1.   |
| EMC DISCOM  | 20   | TRK 2.5T   | 2.   | 2.  |      |            |      |      |
| 52 MED BN   | 20   | TRK 2.5T   | 50.  | 41. |      |            |      |      |
| 52 S & T BN | 20   | TRK 2.5T   | 13.  | 11. | 21   | TRK 5T     | 107. | 101. |
|             | 25   | STLR S&P   | 22.  | 20. | 28   | STLR S&P   | 29.  | 28.  |
| 52 MAINT BN | 20   | TRK 2.5T   | 105. | 92. | 21   | TRK 5T     | 96.  | 82.  |
|             | 25   | STLR S&P   | 38.  | 38. |      |            |      |      |
| 52 AG CO    | 20   | TRK 2.5T   | 1.   | 1.  |      |            |      |      |
| 52 FIN CO   | 20   | TRK 2.5T   | 2.   | 2.  |      |            |      |      |
| 52 DMC      | 20   | TRK 2.5T   | 1.   | 1.  |      |            |      |      |
| HEB DIVARTY | 1    | CARR CP    | 1.   | 1.  | 20   | TRK 2.5T   | 5.   | 4.   |
|             | 21   | TRK 5T     | 11.  | 9.  |      |            |      |      |
| 1-40 FA BN  | 1    | CARR CP    | 9.   | 6.  | 4    | AFC        | 15.  | 12.  |
|             | 9    | BOW 1558   | 18.  | 15. | 20   | TRK 2.5T   | 22.  | 19.  |
|             | 21   | TRK 5T     | 3.   | 3.  | 22   | TRK 8T     | 18.  | 16.  |
|             | 23   | CARR 8T    | 18.  | 15. | 24   | TRK 2500   | 2.   | 2.   |
| 1-41 FA BN  | 1    | CARR CP    | 9.   | 7.  | 4    | AFC        | 15.  | 11.  |
|             | 9    | BOW 1558   | 18.  | 15. | 20   | TRK 2.5T   | 22.  | 20.  |
|             | 21   | TRK 5T     | 3.   | 1.  | 22   | TRK 8T     | 18.  | 15.  |
|             | 23   | CARR 8T    | 18.  | 16. | 24   | TRK 2500   | 2.   | 2.   |
| 1-42 FA BN  | 1    | CARR CP    | 9.   | 8.  | 4    | AFC        | 15.  | 14.  |
|             | 9    | BOW 1558   | 18.  | 16. | 20   | TRK 2.5T   | 22.  | 20.  |
|             | 21   | TRK 5T     | 3.   | 2.  | 22   | TRK 8T     | 18.  | 17.  |
|             | 23   | CARR 8T    | 18.  | 17. | 24   | TRK 2500   | 2.   | 2.   |
| 1-43 FA BN  | 1    | CARR CP    | 8.   | 8.  | 4    | AFC        | 6.   | 6.   |
|             | 10   | BOW 8 SP   | 12.  | 11. | 20   | TRK 2.5T   | 22.  | 21.  |
|             | 21   | TRK 5T     | 3.   | 2.  | 22   | TRK 8T     | 18.  | 17.  |
|             | 23   | CARR 8T    | 12.  | 12. | 24   | TRK 2500   | 1.   | 1.   |
| 52 TA BTRY  | 20   | TRK 2.5T   | 18.  | 16. |      |            |      |      |
| EMC/52 ENGR | 1    | CARR CP    | 3.   | 3.  | 20   | TRK 2.5T   | 11.  | 9.   |
|             | 21   | TRK 5T     | 9.   | 7.  | 24   | TRK 2500   | 4.   | 3.   |
| A/52 ENGR   | 4    | AFC        | 10.  | 7.  | 8    | CEV        | 2.   | 1.   |
|             | 20   | TRK 2.5T   | 3.   | 3.  | 21   | TRK 5T     | 4.   | 3.   |
| B/52 ENGR   | 4    | AFC        | 10.  | 6.  | 8    | CEV        | 2.   | 2.   |
|             | 20   | TRK 2.5T   | 3.   | 2.  | 21   | TRK 5T     | 4.   | 4.   |
| C/52 ENGR   | 4    | AFC        | 10.  | 9.  | 8    | CEV        | 2.   | 2.   |
|             | 20   | TRK 2.5T   | 3.   | 3.  | 21   | TRK 5T     | 4.   | 3.   |
| D/52 ENGR   | 4    | AFC        | 10.  | 9.  | 8    | CEV        | 2.   | 2.   |
|             | 20   | TRK 2.5T   | 3.   | 3.  | 21   | TRK 5T     | 4.   | 4.   |
| E/52 ENGR   | 18   | AVLB       | 4.   | 4.  | 19   | MAB        | 4.   | 4.   |
|             | 20   | TRK 2.5T   | 15.  | 12. |      |            |      |      |

|              |    |          |     |     |    |          |     |     |
|--------------|----|----------|-----|-----|----|----------|-----|-----|
| ED/1-441 ADA | 1  | CARR CP  | 2.  | 2.  | 20 | TRK 2.5T | 7.  | 6.  |
|              | 21 | TRK 5T   | 1.  | 1.  |    |          |     |     |
| A/1-441 ADA  | 14 | GUN 20SP | 12. | 8.  | 20 | TRK 2.5T | 4.  | 3.  |
|              | 21 | TRK 5T   | 6.  | 4.  | 4  | APC      | 4.  | 4.  |
| B/1-441 ADA  | 4  | APC      | 4.  | 3.  | 14 | GUN 20SP | 12. | 10. |
|              | 20 | TRK 2.5T | 4.  | 3.  | 21 | TRK 5T   | 6.  | 3.  |
| C/1-441 ADA  | 4  | APC      | 4.  | 3.  | 13 | GM 275SP | 12. | 12. |
|              | 20 | TRK 2.5T | 8.  | 6.  | 21 | TRK 5T   | 2.  | 1.  |
| D/1-441 ADA  | 4  | APC      | 4.  | 3.  | 13 | GM 275SP | 12. | 11. |
|              | 20 | TRK 2.5T | 8.  | 7.  | 21 | TRK 5T   | 2.  | 1.  |
| ENC/52 AVN   | 20 | TRK 2.5T | 10. | 9.  | 21 | TRK 5T   | 2.  | 2.  |
| A/52 AVN     | 16 | BCPT OBS | 32. | 28. | 17 | BCPT UTL | 14. | 12. |
|              | 20 | TRK 2.5T | 7.  | 7.  | 21 | TRK 5T   | 2.  | 2.  |
|              | 24 | TRK 2500 | 4.  | 4.  |    |          |     |     |
| B/52 AVN     | 17 | BCPT UTL | 23. | 19. | 20 | TRK 2.5T | 3.  | 3.  |
|              | 21 | TRK 5T   | 4.  | 3.  |    |          |     |     |
| C/52 AVN     | 15 | BCPT ATK | 21. | 15. | 16 | BCPT OBS | 12. | 10. |
|              | 17 | BCPT UTL | 3.  | 3.  | 20 | TRK 2.5T | 8.  | 7.  |
|              | 21 | TRK 5T   | 12. | 10. | 25 | STLR 84P | 3.  | 3.  |
|              | 26 | STLR 5K3 | 2.  | 2.  |    |          |     |     |
| D/52 AVN     | 15 | BCPT ATK | 21. | 16. | 16 | BCPT OBS | 12. | 9.  |
|              | 17 | BCPT UTL | 3.  | 2.  | 20 | TRK 2.5T | 8.  | 6.  |
|              | 21 | TRK 5T   | 12. | 11. | 25 | STLR 84P | 3.  | 3.  |
|              | 26 | STLR 5K3 | 2.  | 2.  |    |          |     |     |
| E/52 AVN     | 17 | BCPT UTL | 2.  | 2.  | 20 | TRK 2.5T | 12. | 10. |
|              | 21 | TRK 5T   | 10. | 9.  | 24 | TRK 2500 | 1.  | 1.  |
|              | 25 | STLR 84P | 11. | 10. |    |          |     |     |
| HBT/1-23 CAV | 1  | CARR CP  | 6.  | 5.  | 3  | CFV      | 2.  | 2.  |
|              | 4  | APC      | 3.  | 2.  | 20 | TRK 2.5T | 13. | 10. |
|              | 21 | TRK 5T   | 11. | 9.  | 22 | TRK 8T   | 6.  | 4.  |
|              | 24 | TRK 2500 | 6.  | 5.  |    |          |     |     |
| A/1-23 CAV   | 1  | CARR CP  | 1.  | 0.  | 3  | CFV      | 16. | 7.  |
|              | 4  | APC      | 1.  | 1.  | 6  | TANK 105 | 12. | 6.  |
|              | 12 | MORT 107 | 3.  | 2.  | 20 | TRK 2.5T | 2.  | 2.  |
| B/1-23 CAV   | 1  | CARR CP  | 1.  | 1.  | 3  | CFV      | 16. | 9.  |
|              | 4  | APC      | 1.  | 1.  | 6  | TANK 105 | 12. | 8.  |
|              | 12 | MORT 107 | 3.  | 2.  | 20 | TRK 2.5T | 2.  | 1.  |
| C/1-23 CAV   | 1  | CARR CP  | 1.  | 1.  | 3  | CFV      | 16. | 10. |
|              | 4  | APC      | 1.  | 1.  | 6  | TANK 105 | 12. | 8.  |
|              | 12 | MORT 107 | 3.  | 3.  | 20 | TRK 2.5T | 2.  | 2.  |
| D/1-23 CAV   | 15 | BCPT ATK | 9.  | 6.  | 16 | BCPT OBS | 10. | 7.  |
|              | 17 | BCPT UTL | 7.  | 5.  | 20 | TRK 2.5T | 1.  | 1.  |
|              | 21 | TRK 5T   | 6.  | 6.  | 22 | TRK 8T   | 3.  | 3.  |
|              | 24 | TRK 2500 | 3.  | 3.  |    |          |     |     |
| TF 1-77 D    | 1  | CARR CP  | 6.  | 3.  | 2  | IFV      | 28. | 21. |
|              | 3  | CFV      | 6.  | 4.  | 4  | APC      | 18. | 14. |
|              | 5  | APC/TOW  | 12. | 9.  | 6  | TANK 105 | 17. | 12. |
|              | 11 | MORT 81  | 6.  | 5.  | 12 | MORT 107 | 4.  | 3.  |
|              | 20 | TRK 2.5T | 25. | 20. | 21 | TRK 5T   | 15. | 13. |
|              | 22 | TRK 8T   | 6.  | 4.  | 24 | TRK 2500 | 2.  | 2.  |
| TF 1-78 IN   | 1  | CARR CP  | 6.  | 6.  | 2  | IFV      | 28. | 23. |
|              | 3  | CFV      | 6.  | 4.  | 4  | APC      | 18. | 16. |
|              | 5  | APC/TOW  | 12. | 9.  | 6  | TANK 105 | 17. | 12. |
|              | 11 | MORT 81  | 6.  | 4.  | 12 | MORT 107 | 4.  | 4.  |
|              | 20 | TRK 2.5T | 25. | 22. | 21 | TRK 5T   | 15. | 13. |
|              | 22 | TRK 8T   | 6.  | 6.  | 24 | TRK 2500 | 2.  | 2.  |

|            |    |          |     |     |    |          |     |     |
|------------|----|----------|-----|-----|----|----------|-----|-----|
| TF 1-78 IN | 1  | CARR CP  | 6.  | 4.  | 2  | IFV      | 41. | 31. |
|            | 3  | CFV      | 6.  | 4.  | 4  | APC      | 20. | 13. |
|            | 5  | APC/TOW  | 10. | 11. | 11 | MORT 81  | 6.  | 7.  |
|            | 12 | MORT 107 | 4.  | 2.  | 20 | TRK 2.5T | 27. | 22. |
|            | 21 | TRK 5T   | 13. | 11. | 22 | TRK 8T   | 6.  | 4.  |
| TF 1-80 IN | 24 | TRK 2500 | 2.  | 2.  |    |          |     |     |
|            | 1  | CARR CP  | 6.  | 5.  | 2  | IFV      | 28. | 23. |
|            | 3  | CFV      | 6.  | 5.  | 4  | APC      | 18. | 13. |
|            | 5  | APC/TOW  | 12. | 10. | 6  | TANK 105 | 17. | 14. |
|            | 11 | MORT 81  | 6.  | 6.  | 12 | MORT 107 | 4.  | 3.  |
| TF 1-81 IN | 20 | TRK 2.5T | 25. | 21. | 21 | TRK 5T   | 13. | 12. |
|            | 22 | TRK 8T   | 6.  | 6.  | 24 | TRK 2500 | 2.  | 2.  |
|            | 1  | CARR CP  | 6.  | 6.  | 2  | IFV      | 28. | 20. |
|            | 3  | CFV      | 6.  | 5.  | 4  | APC      | 18. | 16. |
|            | 5  | APC/TOW  | 12. | 8.  | 6  | TANK 105 | 34. | 23. |
| TF 1-82 IN | 11 | MORT 81  | 6.  | 5.  | 12 | MORT 107 | 4.  | 2.  |
|            | 20 | TRK 2.5T | 27. | 24. | 21 | TRK 5T   | 13. | 11. |
|            | 22 | TRK 8T   | 6.  | 5.  | 24 | TRK 2500 | 2.  | 2.  |
|            | 1  | CARR CP  | 6.  | 6.  | 2  | IFV      | 28. | 23. |
|            | 3  | CFV      | 6.  | 5.  | 4  | APC      | 18. | 17. |
| TF 1-82 AR | 5  | APC/TOW  | 12. | 10. | 6  | TANK 105 | 17. | 14. |
|            | 11 | MORT 81  | 6.  | 6.  | 12 | MORT 107 | 4.  | 3.  |
|            | 20 | TRK 2.5T | 25. | 23. | 21 | TRK 5T   | 15. | 14. |
|            | 22 | TRK 8T   | 6.  | 6.  | 24 | TRK 2500 | 2.  | 2.  |
|            | 1  | CARR CP  | 6.  | 5.  | 2  | IFV      | 13. | 8.  |
| TF 1-2 AR  | 3  | CFV      | 6.  | 3.  | 4  | APC      | 10. | 8.  |
|            | 5  | APC/TOW  | 6.  | 4.  | 6  | TANK 105 | 37. | 28. |
|            | 11 | MORT 81  | 3.  | 2.  | 12 | MORT 107 | 4.  | 2.  |
|            | 18 | AVLB     | 2.  | 2.  | 20 | TRK 2.5T | 27. | 19. |
|            | 21 | TRK 5T   | 7.  | 5.  | 22 | TRK 8T   | 7.  | 5.  |
| TF 1-3 AR  | 24 | TRK 2500 | 8.  | 6.  |    |          |     |     |
|            | 1  | CARR CP  | 6.  | 5.  | 2  | IFV      | 13. | 9.  |
|            | 3  | CFV      | 6.  | 4.  | 4  | APC      | 10. | 7.  |
|            | 5  | APC/TOW  | 6.  | 4.  | 6  | TANK 105 | 37. | 22. |
|            | 11 | MORT 81  | 3.  | 2.  | 12 | MORT 107 | 4.  | 2.  |
| TF 1-3 AR  | 18 | AVLB     | 2.  | 1.  | 20 | TRK 2.5T | 27. | 20. |
|            | 21 | TRK 5T   | 7.  | 5.  | 22 | TRK 8T   | 7.  | 4.  |
|            | 24 | TRK 2500 | 8.  | 5.  |    |          |     |     |
|            | 1  | CARR CP  | 6.  | 5.  | 2  | IFV      | 13. | 10. |
|            | 3  | CFV      | 6.  | 5.  | 4  | APC      | 9.  | 7.  |
| TF 1-4 AR  | 5  | APC/TOW  | 6.  | 3.  | 6  | TANK 105 | 20. | 15. |
|            | 11 | MORT 81  | 3.  | 2.  | 12 | MORT 107 | 4.  | 3.  |
|            | 18 | AVLB     | 2.  | 1.  | 20 | TRK 2.5T | 25. | 23. |
|            | 21 | TRK 5T   | 7.  | 6.  | 22 | TRK 8T   | 7.  | 6.  |
|            | 24 | TRK 2500 | 8.  | 7.  |    |          |     |     |
| TF 1-5 AR  | 1  | CARR CP  | 6.  | 6.  | 2  | IFV      | 13. | 11. |
|            | 3  | CFV      | 6.  | 5.  | 4  | APC      | 10. | 8.  |
|            | 5  | APC/TOW  | 6.  | 6.  | 6  | TANK 105 | 37. | 34. |
|            | 11 | MORT 81  | 3.  | 2.  | 12 | MORT 107 | 4.  | 3.  |
|            | 18 | AVLB     | 2.  | 2.  | 20 | TRK 2.5T | 27. | 24. |
| TF 1-25 AR | 21 | TRK 5T   | 7.  | 6.  | 22 | TRK 8T   | 7.  | 6.  |
|            | 24 | TRK 2500 | 8.  | 7.  |    |          |     |     |
|            | 1  | CARR CP  | 6.  | 3.  | 2  | IFV      | 13. | 9.  |
|            | 3  | CFV      | 6.  | 5.  | 4  | APC      | 10. | 8.  |
|            | 5  | APC/TOW  | 6.  | 5.  | 6  | TANK 105 | 37. | 27. |
| TF 1-25 AR | 11 | MORT 81  | 3.  | 2.  | 12 | MORT 107 | 4.  | 3.  |

|    |          |    |    |    |           |     |     |
|----|----------|----|----|----|-----------|-----|-----|
| 10 | AVLB     | 2. | 2. | 20 | TRK 2. ST | 27. | 34. |
| 21 | TRK ST   | 7. | 6. | 22 | TRK ST    | 7.  | 6.  |
| 24 | TRK 2500 | 8. | 7. |    |           |     |     |

ANNEX C: FUEL REPORT 190600 AHD

| UNIT NAME    | GASOLINE |       | DIESEL |       | AVGAS  |        |
|--------------|----------|-------|--------|-------|--------|--------|
|              | BL       | CL    | BL     | CL    | BL     | CL     |
| 201 AC REGT  | 0.       | 0.    | 0.     | 0.    | 0.     | 0.     |
| HHC 52 DIV   | 420.     | 420.  | 383.   | 383.  | 0.     | 0.     |
| HHC 1 BDE    | 498.     | 498.  | 158.   | 158.  | 0.     | 0.     |
| HHC 2 BDE    | 498.     | 498.  | 158.   | 158.  | 0.     | 0.     |
| HHC 3 BDE    | 498.     | 498.  | 158.   | 158.  | 0.     | 0.     |
| 52 CHL CO    | 476.     | 476.  | 98.    | 98.   | 0.     | 0.     |
| 52 MP CO     | 256.     | 256.  | 11.    | 11.   | 0.     | 0.     |
| 52 MI BN     | 2840.    | 2840. | 464.   | 464.  | 0.     | 0.     |
| 52 SIG BN    | 3013.    | 3013. | 478.   | 478.  | 0.     | 0.     |
| HHC DISCOM   | 118.     | 118.  | 632.   | 632.  | 0.     | 0.     |
| 52 MED BN    | 1402.    | 1402. | 472.   | 472.  | 0.     | 0.     |
| 52 S & T BN  | 607.     | 607.  | 1205.  | 1205. | 0.     | 0.     |
| 52 MAINT BN  | 2889.    | 2889. | 1728.  | 1728. | 0.     | 0.     |
| 52 AG CO     | 171.     | 171.  | 258.   | 258.  | 0.     | 0.     |
| 52 FIN CO    | 164.     | 164.  | 81.    | 81.   | 0.     | 0.     |
| 52 DMTC      | 171.     | 171.  | 258.   | 258.  | 0.     | 0.     |
| HHC DIVARTY  | 827.     | 827.  | 188.   | 188.  | 0.     | 0.     |
| 1-40 FA BN   | 829.     | 829.  | 1062.  | 1062. | 0.     | 0.     |
| 1-41 FA BN   | 829.     | 829.  | 1062.  | 1062. | 0.     | 0.     |
| 1-42 FA BN   | 829.     | 829.  | 1062.  | 1062. | 0.     | 0.     |
| 1-43 FA BN   | 932.     | 932.  | 857.   | 857.  | 0.     | 0.     |
| 52 TA BTRY   | 827.     | 827.  | 188.   | 188.  | 0.     | 0.     |
| HHC/52 ENGR  | 1215.    | 1215. | 1373.  | 1373. | 0.     | 0.     |
| A/52 ENGR    | 424.     | 424.  | 874.   | 874.  | 0.     | 0.     |
| B/52 ENGR    | 424.     | 424.  | 874.   | 874.  | 0.     | 0.     |
| C/52 ENGR    | 424.     | 424.  | 874.   | 874.  | 0.     | 0.     |
| D/52 ENGR    | 424.     | 424.  | 874.   | 874.  | 0.     | 0.     |
| E/52 ENGR    | 687.     | 687.  | 3908.  | 3908. | 0.     | 0.     |
| 1-441 ADA BN | 0.       | 0.    | 0.     | 0.    | 0.     | 0.     |
| HB/1-441 ADA | 692.     | 692.  | 130.   | 130.  | 0.     | 0.     |
| A/1-441 ADA  | 167.     | 167.  | 249.   | 249.  | 0.     | 0.     |
| B/1-441 ADA  | 167.     | 167.  | 249.   | 249.  | 0.     | 0.     |
| C/1-441 ADA  | 207.     | 207.  | 163.   | 163.  | 0.     | 0.     |
| D/1-441 ADA  | 207.     | 207.  | 163.   | 163.  | 0.     | 0.     |
| 52 AVN BN    | 0.       | 0.    | 0.     | 0.    | 0.     | 0.     |
| HHC/52 AVN   | 411.     | 411.  | 116.   | 116.  | 0.     | 0.     |
| A/52 AVN     | 558.     | 558.  | 276.   | 276.  | 6340.  | 6340.  |
| B/52 AVN     | 511.     | 511.  | 270.   | 270.  | 8690.  | 8690.  |
| C/52 AVN     | 564.     | 564.  | 288.   | 288.  | 24000. | 24000. |
| D/52 AVN     | 564.     | 564.  | 288.   | 288.  | 24000. | 24000. |
| E/52 AVN     | 751.     | 751.  | 414.   | 414.  | 1150.  | 1150.  |
| TF 1-23 CAV  | 0.       | 0.    | 0.     | 0.    | 0.     | 0.     |
| HBT/1-23 CAV | 608.     | 608.  | 564.   | 564.  | 0.     | 0.     |
| A/1-23 CAV   | 332.     | 332.  | 184.   | 184.  | 0.     | 0.     |
| B/1-23 CAV   | 332.     | 332.  | 184.   | 184.  | 0.     | 0.     |
| C/1-23 CAV   | 332.     | 332.  | 184.   | 184.  | 0.     | 0.     |
| D/1-23 CAV   | 564.     | 564.  | 288.   | 288.  | 20830. | 20830. |
| TF 1-77 IN   | 1072.    | 1072. | 1672.  | 1672. | 0.     | 0.     |
| TF 1-78 IN   | 1072.    | 1072. | 1672.  | 1672. | 0.     | 0.     |
| TF 1-79 IN   | 1025.    | 1025. | 1359.  | 1359. | 0.     | 0.     |

|               |       |       |       |       |    |    |
|---------------|-------|-------|-------|-------|----|----|
| TF 1-00 IN    | 1072. | 1072. | 1072. | 1072. | 0. | 0. |
| TF 1-01 IN    | 1122. | 1122. | 2130. | 2130. | 0. | 0. |
| TF 1-02 IN    | 1072. | 1072. | 1072. | 1072. | 0. | 0. |
| TF 1-2 AR     | 1125. | 1125. | 1034. | 1034. | 0. | 0. |
| TF 1-3 AR     | 1125. | 1125. | 1034. | 1034. | 0. | 0. |
| TF 1-4 AR     | 1075. | 1075. | 1448. | 1448. | 0. | 0. |
| TF 1-5 AR     | 1125. | 1125. | 1034. | 1034. | 0. | 0. |
| TF 1-25 AR    | 1125. | 1125. | 1034. | 1034. | 0. | 0. |
| 25 AR DIV     | 0.    | 0.    | 0.    | 0.    | 0. | 0. |
| 28 PANZER DIV | 0.    | 0.    | 0.    | 0.    | 0. | 0. |
| 10 US CORPS   | 0.    | 0.    | 0.    | 0.    | 0. | 0. |
| 52 INGR BN    | 0.    | 0.    | 0.    | 0.    | 0. | 0. |

# OPERATIONS SUMMARY OF PAST 24 HOURS (18-19 AUGUST)

52 DIV MECH

| ORGN  | LOCATION | OP STATE | RESULTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 BDE | NB2049   | DEFEND   | <p>By 1900 hours, heavy enemy ground and artillery attacks in the north forced the withdrawal of TF 1-2 to positions west of the BEISE River. A limited penetration in that area was counterattacked and contained by elements of TF 1-25 and TF 1-78; however, TF 1-25 was subsequently forced to withdraw to positions west of RENGSHAUSEN (NB3751). In the south by 1800, TF 1-77 withdrew under enemy pressure to strong positions immediately west of AUTOBAHN E4 from the ELSEMBERG (NB3446) to NB3643. TF 1-78 was initially positioned as brigade reserve vicinity NIEDERBEISCHEIM (NB3654), later pulling back to WELFEROPE (NB3253). By 2300 TF 1-2 and TF 1-25 were again under heavy attack, and by 0100 the enemy had occupied NIEDERBEISCHEIM. Friendly ground and artillery operations slowed the attack noticeably. TF 1-77 continued to hold in the south. By 0100 TF 1-78 was committed to defensive positions in the north to assist TF 1-2. About 0300 TF 1-2 was forced back west of Autobahn E4 as the enemy captured OBERBEISCHEIM (NB3554), and TF 1-78 fell back with them to avoid an exposed flank. TF 1-77 in the south continued to hold under heavy enemy pressure; however, it, too, was forced to fall back to avoid an exposed south flank and occupied positions west of the EFZE River. Continuous enemy pressure in the north made TF 1-78 and TF 1-2 positions untenable, and they moved into positions west of Autobahn E4 in sector. TF 1-77 moved into positions west of APPENFELD (NB3444). At 0300 a battered TF 1-23, the division reserve, was released to 1st Brigade and immediately moved northeast through FRIELENDORF (NB2247) to support TF 1-2 and TF 1-25. TF 1-23 was directed to screen east of HOMBERG (NB2853). By 0600 TF 1-78 and TF 1-2 had occupied positions east of HOMBERG and TF 1-77 was completely west of the EFZE River.</p> |
| 2 BDE | NB1840   | DEFEND   | <p>Enemy attack in the MUHLBACH (NB3942)-SAASEN (NB3941) TF 1-79 was forced out of its positions along Autobahn E4, occupied high ground to the west vicinity NB3743, and tied in with TF 1-4 to its south. TF 1-4 defended the STEINRUCK (NB3741) and covered the withdrawal of TF 1-3 from RABOLDSHAUSEN (NB3740). TF 1-3 occupied positions east of SALZBERG (NB3539). Although pressure was light, an exposed flank caused TF 1-80 to move back and occupy the EISEMBERG (NB3638)-KROTENKUPPE (NB3737) line. At 1900 a company team of TF 1-3 was constituted as brigade reserve and moved to SCHWARZENBORN (NB3140). TF 1-3</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



moved on back to defend the high ground west of SALZBERG. TF 1-80 remained in good defensive positions under light enemy pressure. By 2300 TF 1-79 was again under heavy attack from NB3743-NB3642 as was TF 1-4 vicinity NB3441. The enemy closed with TF 1-3 just south of ZAHNSBERG (NB3440) and close-in fighting ensued. These actions forced TF 1-80 to abandon its positions on the EISENBERG. By 0300 the enemy had penetrated the sectors of TF 1-79 and TF 1-4 and crossed the EFZE River at GREBENHAGEN (NB3340). The brigade reserve was committed to contain the penetration. TF 1-3 held the south shoulder of the penetration from the ZAHNSBERG. TF 1-80 began to come under pressure in the south. The enemy salient in the GREBENHAGEN area was attacked by friendly CAS and artillery and the enemy withdrew east of the EFZE. By 0600 the situation along the brigade front was stabilized, although heavy artillery fires were being exchanged. TF 1-81 from the 3d Bde was assigned to the 2d Bde as the 201 ACR relieved the remaining elements of the 3d Bde to the south.

3 BDE NB2034 DIVISION  
RESERVE

Under very heavy artillery support the enemy attacked and seized the high ground SW of KIRCHHEIM (NB4032). Additional enemy units crossed the AULA River south of KIRCHHEIM and are attacking TF 1-81 and TF 1-82. TF 1-81 has withdrawn to defensive positions from NB3735 southward to NB3632 where it ties in with TF 1-82. TF 1-82 is defending south to the AUTOBAHN-DREIECH-HATTENBACH (NB3728) and then to SE along Autobahn E70 to NB3926. TF 1-5 defended on south through NIEDERJOSSA (NB4025) along the FULDA River to the division south boundary at NB4021. By 1900 TF 1-81 had contained the enemy attack. The enemy pressure began to diminish all along the 3d Bde front until 0200 when the enemy launched an assault against TF 1-81 in the FRIELINGEN (NB3734)-AULA River valley area. By 0400 elements of 201 ACR had moved into WEISSENBORN (NB3030) and LINGELBACH (NB2823) to begin the relief of TF 1-82 and TF 1-5. TF 1-81 began withdrawing about 0345 under heavy enemy pressure and occupied defensive positions west of OBERAULA. By 0600 heavy friendly CAS and artillery stopped the enemy attack and forced the enemy into positions behind the STEINBRUCK (NB3335) and the MUNZENBERG (NB3333). TF 1-82 and TF 1-5 were relieved by 201 ACR and moved to assembly areas vicinity ROLLSHAUSEN (NB2233). TF 1-81 was reassigned to 2d Bde, and 3d Bde assumed division reserve mission.

## 1ST BRIGADE

### TF 1-2 NB3052 DEFEND

TF 1-2 was under heavy attack by enemy ground units and artillery, and by 1900 enemy had captured high ground east of RENGSHAUSEN (NB3751). These actions forced withdrawal of TF 1-2 to west bank of BEISE River and into defensive positions from the ERTZEL-KOPF (NB3555) south to LICHTENHAGEN (NB3652). The enemy continued his attack and by 2300 had entered NIEDERBEISCHEIM (NB3654). Additional enemy attacks occurred against the ROMMELBERG (NB3652). To take pressure off TF 1-2, TF 1-78 (brigade reserve) was committed on the brigade north flank. TF 1-2 continued to delay and by 0100 had withdrawn under pressure to OBERBEISCHEIM (NB3554), only then to be forced to continue its withdrawal to defensive positions west of Autobahn E4. The situation is grave, but heavy friendly artillery and CAS missions are in progress.

### TF 1-25 NB3249 DEFEND

Forced to withdraw from positions vicinity HAUSEN (NB3949), TF 1-25 took up good defensive positions west of RENGSHAUSEN from NB3651 south to the high ground just west of NAUSIS (NB3647). By 2300, the enemy had renewed his attack and under heavy assault forced TF 1-25 to continue its withdrawal and take up defensive positions along the ridgeline vicinity NB3551 south to the ASCHENBERG (NB3549). The enemy objective appeared to be the seizure of REMSFELD (NB3550) and crossings of the EFZE River. Enemy attacks about 0300 were repulsed, but heavy enemy pressure in the northern part of the TF 1-25 sector forced withdrawal to vicinity RELBEHAUSEN (NB3350). By 0600, TF 1-25 was withdrawing its company teams to defensive positions immediately west of the EFZE River.

### TF 1-77 NB3245 DEFEND

TF 1-77 occupied good defensive positions along Autobahn E4 from the ELSENBERG (NB3446) south to NB3643. Enemy local attacks were repelled, and artillery fire was exchanged with the enemy for more than four hours; however, by 2300 the company team in the south was forced to withdraw to avoid an exposed south flank. By 0300 the enemy was beginning to apply pressure across the front, and all company teams initiated withdrawal to positions east of the EFZE River. By 0600 TF 1-77 occupied positions from VOLKERSHAIN (NB3347) south to APPENFELD (NB3343).

### TF 1-78 NB3054 DEFEND

Occupied reserve position vicinity NIEDERBESCHEIM (NB3654) but relocated to WELFERODE (NB3253) as enemy attacked positions of TF 1-2. About 2300 TF 1-78 moved on line on the brigade north flank to take pressure off of TF 1-2 and by 0100 had occupied

positions from the ERTZELKOPF (NB3555) south to OBER-BEISCHEIM (NB3554). The enemy continued its attack and by 0345 had forced TF 1-78 west of Autobahn E4 and into defensive positions from BERNDSHAUSEN (NB3354) south to WELFERODE. These positions quickly became untenable, and under cover of intense friendly artillery and air support, TF 1-78 moved back to prepare defensive positions east of HOMBERG (NB2853). Elements of TF 1-23 moved up from division reserve to screen defensive preparations.

TF 1-23 NB2853 SCREEN/  
DEFEND

Division reserve southwest of FRIELENDORF (NB2247) until 0500 when TF 1-2 was attached to 1st Brigade. TF moved through FRIELENDORF to positions east of HOMBERG to screen TF 1-78 and TF 1-2 in their preparation of defensive positions. Friendly artillery and air support is heavy and is inflicting heavy casualties on the enemy.

## 2D BRIGADE

TF 1-79 NB3342 DEFEND

TF 1-79 was forced out of its positions in the MUHL-BACH (NB3942)-SAASEN (NB3942) area along Autobahn E4 and took up new positions immediately to the west of the autobahn from NB3743 southwest along the high ground to the SEMMELBERG (NB3542). By 2300 enemy pressure forced north flank back to NB3643. By 0300 the two northern company teams had withdrawn to positions west of the EFZE River, but the southern team still held the SEMMELBERG. By 0500, however, TF 1-79 was totally west of the EFZE and was exchanging long range fires with the enemy to the east of the river.

TF 1-4 NB3140 DEFEND

From positions north and south of the STEINRUCK (NB3741), TF 1-4 was delivering heavy fires on the enemy and was assisting the withdrawal of TF 1-3 to the south. By 1900 TF 1-4 had withdrawn to the high ground vicinity NB3541 and was holding the pass between the SEMMELBERG and the ZAHNSBERG (NB3440). An enemy attack in the pass area was repelled. TF 1-4 held the area until about 0300 when the enemy penetrated their positions and crossed the EFZE River north of GREBENHAGEN (NB3340). TF 1-4 withdrew to the high ground west of GREBENHAGEN as friendly artillery and air pounded the enemy salient and as the brigade reserve attacked the penetration. The enemy withdrew to positions east of the EFZE. TF 1-4 regrouped, reorganized, and occupied defensive positions from NB3241 south to SCHWARZENBORN (NB3140).

TF 1-3 NB3239 DEFEND

TF 1-3 pulled back from RABOLDSHAUSEN (NB3740) and occupied defensive positions running north and south

through SALZBERG (NB3539). The enemy advance continued, and by 0100 had closed with TF 1-3 south of the ZAHNSBERG (NB3440) and close-in fighting was occurring between NB3440 and NB3438. By 0500 TF 1-3 was digging in from NB3240 to the HEULBERG (NB3239).

**TF 1-80 NB3137 DEFEND**

TF 1-80 has been holding its defensive positions against relatively light enemy pressure. The defensive positions extend from vicinity NB3638 south through the EISENBERG (NB3637) to vicinity NB3636. Enemy activity continued light until 0300 when a frontal assault on the north flank drove the company team there back to the crossroads vicinity NB3337. Withdrawal of TF 1-81 to the south made the TF 1-80 positions untenable, and TF 1-80 withdrew to the line NB3238-NB3137-KOLLENBERG (NB3137). All elements of the TF are heavily engaged.

**TF 1-81 NB3134 DEFEND**

TF 1-81 began the period attached to the 3d Brigade. Strong enemy attacks forced crossings of the AULA River vicinity of KIRCHHEIM (NB4032) resulting in the enemy occupying the EICHBERG (NB3931), the KESSELBERG (NB3930), and the high ground vicinity NB3929. TF 1-81 withdrew to the line from NB3735 in the north to NB3632 in the south and has successfully repulsed enemy attacks up the AULA Valley toward FRIELINGEN (NB3734). After several hours of no significant activity, at 0200 the enemy attacked FRIELINGEN. Fierce fighting ensued, and by 0500 TF 1-81 had been forced back into defensive positions just west of OBERAULA (NB3334). Intensive friendly artillery and airstrikes into the enemy salient allowed TF 1-81 to withdraw in good order. At 0530, TF 1-81 was detached from the 3d Brigade and was attached to the 2d Brigade. TF 1-81 defensive positions now extend from vicinity NB3135 to the KUTZBACH (NB3134) south to HAUSEN (NB3033). 201 ACR has now moved in to relieve the 3d Brigade on the division south flank.

**3D BRIGADE**

**TF 1-82 NB2433 RESERVE**

Following a heavy enemy assault early in the period, TF 1-82 occupied defensive positions from vicinity NB3632 south through the AUTOBAHNDREIECH HATTENBACH (NB3728) to AUTOBAHN E70 at NB3926. By 1900 enemy activity had diminished significantly in the TF sector, and little action took place for the balance of the night. By 0300 elements of 201 ACR had arrived in sector, and the relief of TF 1-82 in place began. The relief was completed by 0500, and TF 1-82 was moving to an assembly area vicinity WINCHERODE (NB2433).

TF 1-5 NB2333 RESERVE TF 1-5 opened the period defending the sector from NB3926 south through NIEDERJOSSA (NB4025) to the division limiting point at NB4021. . Sporadic enemy artillery and direct fire ensued throughout the night until elements of 201 ACR arrived in sector about 0300. Relief of TF 1-5 was completed by 0600 and the TF was moving to an assembly area vicinity ROLL-HAUSEN (NB2333).

**TASK ORGANIZATION**

**52 DIV MECH**

**1ST BRIGADE**

**HHC 1 BDE**

**TF 1-77 IN**

**HHC/1-77 IN**

**A/1-77 IN**

**B/1-77 IN**

**C/1-25 AR**

**CSC/1-77 IN**

**TF 1-78 IN**

**HHC/1-78 IN**

**A/1-78 IN**

**B/1-78 IN**

**C/1-2 AR**

**CSC/1-78 IN**

**TF 1-2 AR**

**HHC/1-2 AR**

**A/1-2 AR**

**B/1-2 AR**

**C/1-78 IN**

**CSC/1-2 AR**

**TF 1-25 AR**

**HHC/1-25 AR**

**A/1-25 AR**

**B/1-25 AR**

**C/1-77 IN**

**CSC/1-25 AR**

**TF 1-23 CAV**

**HHC/1-23 CAV**

**A/1-23 CAV**

**B/1-23 CAV**

**C/1-23 CAV**

**D/1-23 CAV**

**D/52 AVN(DS)**

**1-40 FA BN(DS)**

**A/52 ENGR(DS)**

**B/1-441 ADA(DS)**

**2D BRIGADE**

**HHC 2 BDE**

**TF 1-79 IN**

**HHC/1-79 IN**

**A/1-79 IN**

**B/1-79 IN**

**C/1-79 IN**

**CSC/1-79 IN**

**TF 1-4 AR**

**HHC/1-4 AR**

**B/1-4 AR**

**C/1-81 IN**

**CSC/1-4 AR**

TF 1-3 AR  
   HEC/1-3 AR  
   A/1-3 AR  
   B/1-3 AR  
   C/1-80 IN  
   CSC/1-3 AR  
 TF 1-80 IN  
   HEC/1-80 IN  
   A/1-80 IN  
   B/1-80 IN  
   C/1-3 AR  
   CSC/1-80 IN  
 TF 1-81 IN  
   HEC/1-81 IN  
   A/1-81 IN  
   B/1-81 IN  
   C/1-4 AR  
   C/1-3 AR  
   CSC/1-81 IN  
 1-41 FA BN(DS)  
 B/52 ENGR(DS)  
 A/1-441 ADA(DS)  
 C/52 AVN(DS)

**3D BRIGADE**

HEC 3 BDE  
 TF 1-82 IN  
   HEC/1-82 IN  
   A/1-82 IN  
   B/1-82 IN  
   A/1-4 AR  
   CSC/1-82 IN  
 TF 1-5 AR  
   HEC/1-5 AR  
   A/1-5 AR  
   B/1-5 AR  
   C/1-82 IN  
   CSC/1-5 AR

**52 DIVARTY**

HEB DIVARTY  
 1-40 FA BN  
 1-41 FA BN  
 1-42 FA BN  
 1-43 FA BN  
 52 TA BTRY

52 DISCOM

ESC DISCOM  
52 MED BN  
52 MAINT BN  
52 S & T BN  
52 AG CO  
52 FIN CO  
52 ENMC

52 DIVTRPS

ESC 52 DIV  
52 ENGR BN  
ESC/52 ENGR  
A/52 ENGR  
B/52 ENGR  
C/52 ENGR  
D/52 ENGR  
E/52 ENGR  
1-441 ADA BN  
EB/1-441 ADA  
A/1-441 ADA  
B/1-441 ADA  
C/1-441 ADA  
D/1-441 ADA  
52 AVN BN  
ESC/52 AVN  
A/52 AVN  
B/52 AVN  
C/52 AVN  
D/52 AVN  
E/52 AVN  
52 MI BN  
52 SIG BN  
52 CHL CO  
52 MP CO



# UNIT LOCATIONS

|               |            |
|---------------|------------|
| 4 AMBL BDE    | RA 342 238 |
| 201 AC REGT   | NB 233 247 |
| HBC 52 DIV    | NB 069 428 |
| HBC 1 BDE     | NB 201 480 |
| HBC 2 BDE     | NB 181 405 |
| HBC 3 BDE     | NB 200 340 |
| 52 CML CO     | NB 072 425 |
| 52 MP CO      | NB 065 435 |
| 52 MI BN      | NB 067 425 |
| 52 SIG BN     | NB 110 415 |
| HBC DISCOM    | RA 640 289 |
| 52 MED BN     | RA 640 289 |
| 52 S & T BN   | RA 640 289 |
| 52 MAINT BN   | RA 285 235 |
| 52 AG CO      | RA 624 268 |
| 52 FIN CO     | RA 806 241 |
| 52 DMHC       | RA 650 228 |
| HBC DIVARTY   | NB 150 430 |
| 1-40 FA BN    | NB 233 520 |
| 1-41 FA BN    | NB 227 397 |
| 1-42 FA BN    | NB 218 380 |
| 1-43 FA BN    | NB 210 480 |
| 52 TA BTRY    | NB 155 435 |
| HBC/52 ENGR   | NB 089 416 |
| A/52 ENGR     | NB 200 500 |
| B/52 ENGR     | NB 190 385 |
| C/52 ENGR     | NB 190 350 |
| D/52 ENGR     | NB 095 415 |
| E/52 ENGR     | NB 110 420 |
| 1-441 ADA BN  | RA 337 238 |
| HBT/1-441 ADA | NB 120 500 |
| A/1-441 ADA   | NB 235 400 |
| B/1-441 ADA   | NB 235 488 |
| C/1-441 ADA   | NB 237 338 |
| D/1-441 ADA   | NB 010 415 |
| 52 AVN BN     | RA 488 288 |
| HBC/52 AVN    | NB 060 410 |
| A/52 AVN      | NB 055 415 |
| B/52 AVN      | RA 100 100 |
| C/52 AVN      | NB 182 428 |
| D/52 AVN      | NB 209 506 |
| E/52 AVN      | RA 624 268 |
| TF 1-23 CAV   | NB 320 534 |
| HBT/1-23 CAV  | RA 578 238 |
| A/1-23 CAV    | RA 578 238 |
| B/1-23 CAV    | RA 578 237 |
| C/1-23 CAV    | RA 578 235 |
| D/1-23 CAV    | RA 578 235 |
| TF 1-77 IN    | NB 328 455 |
| TF 1-78 IN    | NB 305 548 |
| TF 1-79 IN    | NB 330 425 |
| TF 1-80 IN    | NB 314 375 |
| TF 1-81 IN    | NB 308 345 |

|               |            |
|---------------|------------|
| 27 1-62 IN    | RB 224 353 |
| 27 1-2 AR     | RB 200 323 |
| 27 1-3 AR     | RB 324 303 |
| 27 1-4 AR     | RB 315 403 |
| 27 1-5 AR     | RB 235 330 |
| 27 1-25 AR    | RB 320 400 |
| 23 AR DIV     | RB 020 070 |
| 28 PANZER DIV | RA 620 356 |
| 10 US CORPS   | RA 568 175 |
| 32 INCH BN    | RA 413 307 |

## WARGAME PROCEDURES

Step 1: Gather tools.

Step 2: List all friendly forces.

Wargaming for friendly CA 2 versus enemy major attack in south.

Step 3: Assumptions:

Enemy will launch initial attack with tank division along the southern avenue of approach through Schwarzenborn-Oberlau attempting to seize communication center at Treysa. First echelon will consist of 3 regiments (2 tank and 1 MRR) with another tank regiment in second echelon. Secondary attack in north consisting of forces in place (MRD).

Step 4: List known critical events:

1. Destruction of enemy 1st echelon in MBA.
2. Destruction of follow on forces (elements of the 7TA).
3. Counterattack (Commitment of friendly reserves).

Step 5: Select wargame method: modified belt technique

Step 6: Select technique to record results: narrative

Step 7: Wargame battle/ assess results:

Critical Event 1- Destruction of enemy 1st echelon in MBA.

ACTION: Friendly bde elements deployed as in Overlay for CA 2.

REACTION: Main attack with 3 regts on line in south. He will use high speed roads (Oberlau, Hausen and Schwarzenborn). Secondary attack in north with motorized regiments along high speed avenues at Obererhausen, Remsfeld and Volkershain.

COUNTERACTION: Artillery/CAS fires against 1st echelon of tanks as close to line of contact as possible. The towns will have obstacles which prevent the tanks from entering. Tanks will be forced into the countryside. We will position our antitank wpns on key terrain at Steinbruch (Hill 507), Dohnberg (Hill 491) Waldkill (Hill 624). Canalize enemy tanks into kill zones using engineer tank ditches and abatis in the countryside. In the north, we will use minimum effort necessary to prevent penetration. We will position forces to the east of Homberg to control entry. We will make maximum use of terrain to force the enemy into battalion sized avenues of approach.

REACTION: Enemy penetrates friendly forces at line of contact in the south at Oberlau and Schwarzenborn. It will take about 2 hours. They will continue to

move on to Neukirchen using Hwy 454 and on to Seigertshausen. The enemy second echelon (2 MRRs?) will begin to widen the penetration zone. Enemy will not penetrate in the north at this time.

COUNTERACTION: Friendly forces will withdraw to prepared positions on PL ALPHA to reestablish the defense and to block further penetration. Should further penetration occur, reserves will be committed at this time. 1st bde continues to hold in north along initial line of contact, but bde reserve shifts to the southern boundary of the bde to prevent enemy attempt to turn bde flank by the second echelon forces. As enemy attack slows, friendly forces will attempt to reestablish initial defensive positions.

CA 2 versus enemy main attack in the north (SURPRISE!).

ACTION: Friendly bde elements deployed as in Overlay for CA 2.

REACTION: Main attack with 3 rgmts on line in north. He will use high speed roads on Hwy E4 and split in battalion size units along Steindorf-Leuderode-Allendorf, Keddingshausen-Rodemann-Wernswig, Remsfeld-south of Homberg-Cassdorf, and Welfferode-north of Homberg-Borken. Objective to seize Borken and turn south to capture communication center at Treysa and cut the north-south corridor. He will use surprise and massed fires. Secondary attack in south with massive prep fires and deception measures to hide the real main attack. He will fix us in place with the 128 MRD with motorized regiments along high speed avenues at Schwarzborn and Oberlau.

COUNTERACTION: Shift priority of supporting fires and call for additional CAS to blunt the attack in north. Friendly forces attempt to delay until a new defensive line can be established along Phase Line BRAVO using forces from the 2nd bde and the division reserve. Defending forces in south withdraw to PL ALPHA, attempt to delay secondary attack, and be prepared to withdraw to PL BRAVO on order. This will take about 4 hours to complete.

REACTION: Enemy will follow in the north with strong 2nd echelon (3 MRR?). As our 2nd and 3rd bdes withdraw to PL ALPHA and BRAVO in turn the enemy secondary attack will swing north toward BORKEN in an attempt to envelop forces of the 3rd bde and further cut the north-south border. Enemy will exploit successes with elements of the 7 IA.

COUNTERACTION: Remaining friendly forces from 1st bde will pass through defensive line and attempt to establish blocking positions along PL CHARLIE in vic Dorheim and Zimmersrode. Southern forces will withdraw to PL CHARLIE. 3rd bde will establish strong defense east of Treysa. Request commitment of additional CAS, Corps artillery, and Corps reserves.

List Advantages and Disadvantages of CA 2:

Advantages:

Strong defense against enemy most likely AA

Disadvantages:

Leaves us very vulnerable to a surprise attack in north.

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(Repeat wargame for CA 1 and CA 3)

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Compare advantages and disadvantages for all Courses of Action

Make recommendation.